



MAGAZINE

PRICE TWOPENCE

APRIL 1952



AMBASSADORS

(see page 109)

HOLBEIN (1497-1543)

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FRONT COVER: *The frequency with which Turkish rugs appear in the paintings of Hans Holbein the younger has led to a certain type of Turkish rug being known as the Holbein rug. The characteristic Holbein rug has the dark rich colours and geometric patterns seen in this picture.*

OUR CONTRIBUTORS

R. P. MAXWELL joined I.C.I. in December 1950. He has had a varied career as night porter, farm labourer and circus clown. Before the war he owned a second-hand curio shop. He has been writing for fifteen years as a hobby and is now writing an autobiography which he hopes to get published soon.

A. F. NICKLIN, who is traffic foreman at the Stoke Prior Works of Salt Division, has been our Magazine correspondent for the last fourteen years. "Writing is my hobby," he says. "I have never tried to sell my work. I write for sheer love of it and enjoy every minute."

TOM PARRY is an assistant technical officer at Wallerscote Works, Alkali Division. For many years he worked at the White City, London, as head lad under one of the leading greyhound trainers, Mr. Hyde Clark. He joined the Company in 1937 and during the war served with the Cheshire Yeomanry in the Middle East.

F. H. PERKINS is no stranger to the United States, having visited the country in 1944 to study American training methods. His report after that visit led to the adoption by the Ministry of Labour of the wartime scheme of Training Within Industry. Mr. Perkins joined the Company in 1946 after fourteen years previously spent in industry.

O. S. TUYGIL is head of the Dyestuffs Department of I.C.I. (Turkey) in Istanbul, where he was born and educated. During World War II he spent three years in the Turkish army, ending up with the rank of sergeant. He joined the Company in 1946.

What have the Americans got?

Observations on Industrial foremen in U.S.A.

By F. H. Perkins (Education Officer)

Have we anything to learn from the Americans in the matter of selection and training of supervisors? This was the object of the visit to America last year of the Anglo-American Productivity Team, of which Mr. Perkins was a member. This article gives the views of an observer who was particularly impressed that so many American foremen have had a full-time education up to 18 years of age and look upon their present jobs as only the start of a management career.

*Between two hawks, which flies the higher pitch;
Between two dogs, which hath the deeper mouth;
Between two blades, which bears the better temper;
Between two horses, which doth hear him best;
Between two girls, which hath the merriest eye;
I have, perhaps, some shallow spirit of judgment;
But in these nice sharp quillets of the law,
Good faith, I am no wiser than a daw.*

Earl of Warwick in *Henry VI*

WARWICK'S "mannerly forbearance" when faced with a delicate matter of judgment characterised the attitude of mind of the members of the Anglo-American Productivity Team when early in 1951 we were called upon to study the selection and training of people in supervisory grades in American industry and to form some judgment on the relative merits of American methods compared with our own.

Differences in background, environment and aspirations made us cautious about comparisons unless we were reasonably assured that we were, in fact, comparing like with like. Some of us had been on previous visits to the United States and appreciated some of the distinctions that can be drawn between the American and the British way of life. Many of us were well informed on the selection and training methods employed in this country. It was therefore with enquiring but not uncritical minds that we entered the American scene.

Was there anything we could add to what had already been said by the thirty or so productivity teams which had already passed the same way? In our case there was perhaps one important distinction. We were not linked with any particular

industry or manufacturing process. We were theoretically free to roam through industry at large.

Comment on the methods of selection and training with which we became familiar can have little significance unless something is said at the outset regarding the superintendents, general foremen, foremen and office supervisors themselves. What were the impressions we formed of the American foreman, for instance? What kind of job was he expected to do, and how well was he doing it?

In the main he was youthful, intelligent, alert and well educated. The majority we met had received a full-time education up to 18 years of age, and quite a number were graduates of a college or university who had entered industry at 22 or 23 years of age.

We were particularly impressed by this, although we did not overlook that in America levels of academic attainments may be somewhat lower, on an age for age comparison, than in this country. The foremen expressed themselves well and with confidence and displayed an excellent knowledge of company policy and practice. To be with some of these men on their jobs was often a stimulating experience. They were men who gave us the impression of realising that their present jobs were only the start of a management career and that further success would depend very largely on their own efforts. They were fully apprised of their sometimes far-reaching responsibilities, although these were often confined to relatively small working units.

An outstanding feature was the "budgetary" responsibility carried by many of these men; in short, they seemed to be under contract to their own boss to achieve a negotiated production and cost result within a prescribed period of time. Senior management delegated to them wide discretionary

powers of action within the terms of this contract, and many of them gave us the impression of running their own business. At intervals they were fed with production figures and cost returns and we were left in no doubt about their ability to interpret these figures quickly and to take appropriate action.

It would be wrong to leave the impression that the foreman was free to plan and produce as he pleased. On the contrary, processes were often planned and organised down to the smallest detail by service departments before the foreman took over. From then onwards, however, he was granted the widest discretionary powers commensurate with the technical requirements of the process and the product, the service departments remaining close at hand to give assistance if called on.

Most of the foremen spoke well of the assistance they received from service departments, such as staff and labour departments, and it appeared that in the relationship that existed between these departments and these men there was a mutual respect and understanding for their different responsibilities. They valued highly the opportunities for further training, and they appeared to participate in these activities very willingly.

Above all they recognised their position as an important link in the line of authority between senior management and the operative level. Every effort was made to see that communication travelled along this line in both directions, and in these circumstances it was not surprising to find the lower levels of supervision well informed and feeling that they were participating in the day-to-day operation of management.

Can it be doubted that in these circumstances there existed a feeling of keen personal responsibility among the lower levels of supervision and a high order of production activity that brings its own rewards?

Careful Selection

What did we learn of the selection and training methods used by the Americans? There can be little doubt about the thorough going selection procedures. The outstanding features were:

1. Early and continuous spotting of potentialities among the rank and file.
2. Investigations of worthiness, often spread over a substantial period of time.
3. Use of a selection panel kept apprised of immediate and potential vacancies.
4. Advice by the panel to heads of departments regarding the appointment of candidates to fill vacancies.
5. Absolute respect for the head of a department's responsibility to make the final decision in the light of advice he received.

As far as we could judge, the same consideration was given to the claims of all who might merit selection, irrespective of the way in which they had started life in the company or the extent of their educational attainment. It seemed that senior management was particularly keen on ensuring the appointment of a certain proportion of foremen who clearly possessed



THE MAIN INDUSTRIAL CENTRES visited by the Anglo-American Productivity team are here shown marked with a red spot. The team spent 45 days in the United States and investigated 21 companies, 5 educational institutions and 7 associations.

potentialities for more senior positions later on. The progress that some foremen were able to make provided a keen and effective incentive. University graduates were not normally recruited directly into the ranks of the foreman unless they had been given the opportunity of showing their paces in a subordinate occupation. The important thing was that many were willing to start at this level.

American management recognised that the best results were not achieved by selection alone. Considerable efforts were made to enable supervisors at all levels to keep themselves abreast of trends in company policies and practices and to acquire the feeling that they were players in a team sensitive to the other fellow's moves and contributing to the constructive development of the game.

Once a Week Discussions

There was, of course, nothing original in this idea, but the lengths to which American management was prepared to go in giving practical expression to this theme was impressive. Short full-time training courses for supervisors were in existence, but in the course of time the Americans had found that something more than a "shot in the arm" approach to the problem was required. The benefits of occasional courses were known

to be limited. Something more permanent and of a more continuous character was required. As a result informational and consultative procedures had been introduced as an organic part of the whole industrial operation.

It was quite a common thing for supervisors at all levels to be called together, sometimes as often as once a week, to discuss current operational problems, to hear the latest news from above, or to undertake a further study of a subject, such as human relations, costing methods, techniques of method improvement and kindred subjects. There was no end to this process, and as long as the supervisors remained with the company this was the chief medium by means of which the whole operation of management was knit together and the development of supervisory ability was fostered.

Such activities were seldom referred to as formal training but nevertheless the services of the training staff were closely interwoven. Instruction was given on the effective conduct of meetings; careful plans were laid and visual aid material was developed for the presentation of information and the

leading of a discussion. We were surprised to find so much time spent in meetings of this character, particularly in view of the cost-consciousness of the American industrialist. Nevertheless what we saw and heard of these activities left us in no doubt that a strong conviction existed regarding the merits of this form of communication and development. "A little and often" was the keynote of this work.

These activities threw a spotlight from time to time on the particular needs of individual supervisors, and wherever possible these needs were met by individual coaching on the job, by the planned movement of staff to obtain more experience or by assignments to special duties or committees. Stemming from this continuous form of basic training there was sometimes sufficient demand for short full-time courses to meet the needs of a group of individuals. Such group training activities arose, therefore, as a natural outcome of the continuous basic training process.

It has only been possible in this short article to refer to a few of the main impressions we gained. There were some things about which we were less favourably impressed, but in all fairness it must be said that the majority of Americans we met were quick to recognise their own shortcomings. They were also surprisingly modest about those achievements which we were ready to recognise and applaud.



OUR HORSES

By A. F. Nicklin (Salt Division)

The fifth of October last was a sad day for Stoke Prior works of Salt Division. On that day Boxer and Captain, the last of a long line of working horses, left Stoke Prior to be pensioned off on a nearby farm. Just what this meant to many people at the works this article tells.

I USED to think I would like to be a works manager. Now I am not so sure. They have to make some terrible decisions. For instance, they may have to decide, or at least recommend to others for decision, that the works horses should be sold and replaced by motor wagon-pushers. That has actually happened on our Salt Works at Stoke Prior. We are all very sad about it.

The advantages are obvious. The pop-popping, whining contraptions require food only when they are working; but they never whinney a welcome to you in the morning; cut off their petrol or ignition and they will stand for ever without being tethered; but they will never nose your pocket for an apple or a carrot. It is admitted they can work in places inaccessible to a horse; but they will never become a part of you by creeping into your heart. And whoever saw a couple

of motor pushers standing side by side head opposite tail, flicking the flies off each other's faces? Yet our Boxer and Captain have done this hundreds of times.

Frankly, without wishing to be sentimental about it, we never realised how much we loved Boxer and Captain until they left us on 5th October for a local farm. It was the end of an epoch. They were the last of a long line of horses which had been part of our lives for over a century. Ever since some inspired Cheshireman found brine at Stoke Prior in 1827, horses have made an incalculable contribution to our eminent position in the salt industry.

They hauled the marl away and the bricks and pipes to the pits when they were sunk. The blocks of limestone which form the base of our famous big chimney and the thousands of bricks to raise William Gossage's masterpiece to its original

proud eminence of 309 ft. were hauled by horses. The thousands of tons of soil for the banking of our $1\frac{1}{4}$ acre reservoir; countless trees for building timber and salt tubs; machinery and metal for our smiths and founders—all were brought by horses. For nearly fifty years all our shunting was done by these lovely animals, the Boxers, Captains, Dukes, Dollies and Bessies of long ago.

In the bill of sale Boxer was described as a dark gelding, 18 years, 12-2 hands high; weight $18\frac{1}{2}$ cwt. Captain—a light gelding, 12 years old, 17 hands high; weight $18\frac{3}{4}$ cwt. What nonsense! Why, everyone knows that Boxer had a sleek dark brown dappled coat; a big round fat rump which he loved you to slap—a humorous twinkle in his eye and a questing nose which soon found your pocket. When in a playful mood he has torn a piece from the seat of quite good trousers or given a protruding elbow a reminding nip—just in fun, of course. Captain, though younger, would not be fussed unless there was an apple in view. Like most adolescents, he was careless of his appearance. His coat was always quite shaggy, as though he was always ready for a hard winter. But he was proud of his white spats. So much was evident from the delicate, gentle way he placed his feet. But when pulling a load he stuck them in valiantly. He would snort impatiently



Captain (here pictured with the author) would not be fussed unless there was an apple in view. Like most adolescents, he was careless of his appearance. His coat was always quite shaggy.

and give you a crack with his nose if you took the liberty of stroking his face and laugh at your discomfiture.

Most of our horses have been like Boxer and Captain. Strong, quiet, patient, hard-working creatures who did so much for what seemed so little. But there were other types, too. The canal barge horses. "Half-legged hosses" they were called. This term indicated they were a medium type which could travel fast with a light load and move a heavy load with the ponderous certainty of a Boxer.

Then came the Dollies, smart pony types reserved for those duties now performed by the works cars. They carried the great ones to and from the railway station, took the post, and—very important indeed—brought the wages to the works every blessed Saturday. They have conveyed many a minor official on some surreptitious nocturnal spree. Their hard-earned rest has been disturbed by more serious events. Scaldings and other serious accidents were more frequent in those days. On numerous occasions Jenny or Dolly has been fetched out, harnessed, and driven away blissfully unconscious that behind her a life was ebbing slowly away as she trotted gently through the darkness to the hospital.

But there were other pictures, too. Pictures bright with colour and pageantry which illuminated the drear and sombre lot of the common saltman. He revelled in the sight of John Corbett, the "Salt King," arriving at the works each day in his landeau or brougham. His four Arabian greys in their ornate trappings, driven by liveried coachmen and postillions, were a sight to be remembered. These pampered darlings of the equestrian world evoked the involuntary admiration of whoever saw them. Maybe they snorted disdainfully when they saw a Boxer or Duke. But one feels sure that Boxer and Duke knew exactly what to do in reply.

Just as Boxer and Captain are the last of our horses, Ted Bloomfield is the last of our horsemen. For thirty-five years he has worked for the Company as a horse-driver. This term surely is the arch-villain of wicked job descriptions. Like the many gone before, Ted is first of all a horse-lover. His love for them has made him their doctor, nurse, companion and, as he put them to bed, their chambermaid. Through long, anxious nights he has nursed Boxer and Captain through painful bouts of colic and other troubles. They would be dosed



Boxer had a sleek, dark brown dappled coat, a big round fat rump which he loved you to slap, a humorous twinkle in his eye and a questing nose which soon found your pocket.

and cosseted with all the care given to a sick child. The morning would find Ted with a lined face, red-eyed and weary. If he smiled, the patient was better and the dawn was good. Boxer and Ted understood each other perfectly. Ted would say "Come on, then! Quietly now! Stiddy! Just a bit!" Boxer's response was immediate. After the work there was the play, Boxer pretending to bite, snap and push as Ted teased him. Certainly Ted was Boxer's driver; but it was the least important part of their companionship.

The horses were stabled all the winter. At Whitsuntide they were turned out. As many workers as possible used to turn out also to see the fun. When being led to the field the horses would quiver with excitement. On the pasture the halters were slipped adroitly and the men scampered to safety. The horses shrieked in wild delight as they frisked and frolicked in joyous abandon. Here was joy—sheer joy, expressed as few humans could do it. It was an epic poem to the joy of spring expressed in motion by two lovely cart-horses.

Just one other character to conclude. Jimmy Watton is dead, but he left us a wealth of memories. He enjoyed the privileged position of coachman and drove the last of our Dollies. She was a lovely roan mare. Jimmy loved her.

For high officials, but of course quite unofficially, Jim collected butter from neighbouring farms. Maybe it was just coincidence, but Jim invariably got his butter from a farmer

who was a merry rogue with a good cellar of cider and wine and very open-handed to boot. Late each Friday afternoon Dolly would trot into the yard with Jim and the butter. Dolly and the butter were always in prime condition. On one occasion Dolly came in with Jim and the butter but only three wheels. Jim did not know he had lost one. Dolly did not care. Someone told Jim of his loss. He turned Dolly round, and away they went to search for the missing wheel. They found it, too—that is, Dolly did!

A thousand and one stories could be told of Jim Watton and Dolly. There is room for just one. Cars had found a permanent niche in the works organisation. Dolly was redundant. The manager sent for Jim. He explained the position and his decision. Rather than sell Dolly and risk her falling into unkind hands he had decided to have her destroyed. Jim shook. The colour left his face. He fought back the tears and, almost choking with emotion, said in his broad mid-Worcestershire idiom: "If that's it, sir, plase be s'good as to shoot me fust!"

Dolly was reprieved. And that epitomises all that we have tried to say in this tribute to all our horses, symbolised for us by Boxer and Captain. May the patron saint of horses give them a good master, sweet corn and green lush meadows, and at the end a comfortable stall in that corner of heaven reserved for good horses.

Information Notes

'ANTRYCIDE': ITS ACHIEVEMENTS AND PROSPECTS

By W. T. Harrow (Imperial Chemical (Pharmaceuticals) Ltd.)

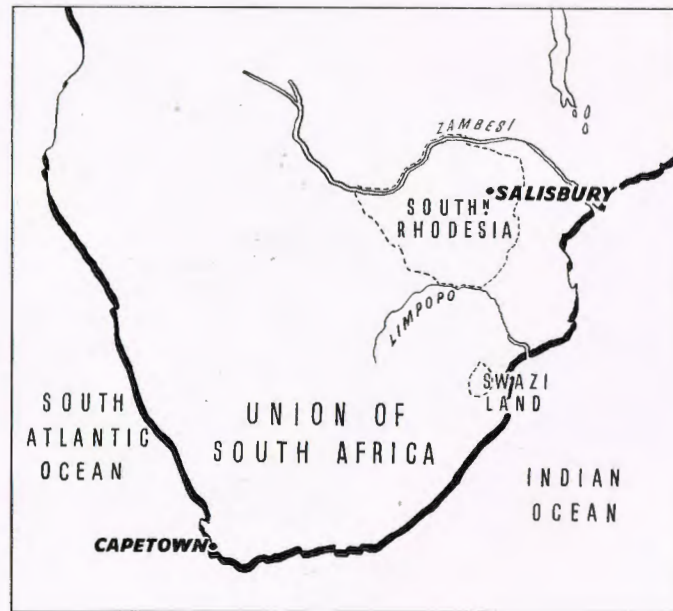
In the March issue of the Editor's Postbag a correspondent asked, "in view of our present meagre ration of meat," for more news about the part played by 'Antrycide' in the development of cattle ranching in Africa. Here an I.C.(P.) expert gives the answer.

A LITTLE more than two years ago the discovery of 'Antrycide' was announced. The hope was then expressed that by the conquest of trypanosomiasis—the cattle disease akin to sleeping sickness which is carried by the tsetse fly—Africa would become "Britain's larder" and vast expanses of country would be set free for cattle-rearing.

It is pertinent to ask today: How far is this hope from fulfilment? The short answer is that the drug is certainly working well. It is curing trypanosomiasis not only in Africa but in all countries where the disease occurs.

There are at least seven different species of trypanosome which cause disease in animals, and four of them affect cattle in Africa. Before the discovery of 'Antrycide' there were several drugs reasonably effective against some of these species, but none afforded a complete cure against all, and none gave protection against reinfection after cure.

'Antrycide,' when properly used, will not only cure all the animal trypanosomiasis with a single dose but it will confer protection for an effective period afterwards. Moreover, it will do this without harming the animal. Just how long the protective period is we are not yet sure. It varies according to the trypanosome concerned, and still more research work remains to be done on this subject. However, one thing is certain: these periods are long enough to be of real value in the control of the disease and to allow the grazing and



movement of animals in districts previously closed to them by the tsetse fly.

The fly can live and breed only under certain conditions of vegetation and humidity, and these conditions occur in well-defined areas known as fly belts. These belts frequently surround large districts of good grazing and prevent cattle from moving into and from them. They may also exist across the routes, often hundreds of miles long, by which the cattle are driven "on the hoof" to the meat-packing stations. A single dose of 'Antrycide,' by giving protection for the period of the journey, can

enable cattle to be driven through the fly belts without their contracting the disease.

Again, conditions suitable for the fly may only occur in some districts during the wetter months of the year. This means that many areas which are ideal during the dry seasons become fatal to cattle during the rains, and the cattle have to be driven off to other pastures for several months of the year. Treatment of the cattle with 'Antrycide' at appropriate intervals offers a means of keeping them in the same district indefinitely.

Another, and perhaps ultimately the most important, use of 'Antrycide' is for the protection of animals in areas recently cleared of bush.

As soon as land is cleared it must be immediately populated in order to prevent the bush from creeping back, and the best way to ensure this is to keep cattle on it. Unfortunately,

however, this land is still dangerous to cattle because the tsetse fly will travel several miles from its breeding grounds to feed, and cattle are attacked from bush which has not yet been cleared. 'Antrycide' can protect the cattle in these marginal areas and so allow clearance schemes to progress far more quickly than has hitherto been possible. More and more fertile ground may thus be converted from a wilderness of thorn trees and wild game to prosperous farmland.

Facts in Perspective

Every drug, of course, has its critics, and it has been said that 'Antrycide' may produce drug resistance on the part of the trypanosome and that it is therefore potentially dangerous. It is quite true that if the drug is improperly used strains may be produced which are resistant to it. This is a property which 'Antrycide' shares with penicillin, the sulphonamides, and the majority of other agents used against living organisms. We have known about this from the beginning, but the importance of the fact must be judged in its true perspective.

A drug-resistant organism, whether it be trypanosome or streptococcus, is one which has become used to a particular drug and no longer responds to treatment by it. This does not mean, however, that it differs in any other way from its more tractable relations. It is no more lethal to the animal, and it will not spread the disease any more rapidly. If, therefore, a few isolated resistant trypanosomes are produced, the total effect on a large population may be hardly noticeable, and those animals which are affected are in no worse case than if they had not been treated at all. It is obviously quite illogical to withhold a particular drug from thousands of animals because of the possibility that a few may not benefit from it.

Undoubtedly the problem of trypanosomiasis in Africa is in sight of solution, and 'Antrycide' has made an important contribution to that end.

There are, however, many more difficulties to be overcome before Africa becomes a meat-producing country.

Stock-rearing needs men to look after the cattle and to populate the newly cleared areas, and many Africans are reluctant to leave familiar surroundings for strange districts which may be the hiding places of evil spirits. Europeans own many large farms, but it is the African who must eventually populate most of the new lands.

In Swaziland taxes collected by the supreme chief are used to buy more lands for the tribesmen, and now the greater part of their country is owned and farmed by the Swazis themselves. The European agricultural and veterinary officers have educated them in methods of soil conservation and animal husbandry and today Swaziland has a prosperous native community with thriving crops and healthy cattle. Contour

ploughing and proper fertilization keep the soil in good heart, and animal diseases are controlled by regular inspection, vaccination, dipping and the eradication of the tsetse fly.

But Swaziland is a small dot on the map of Africa. Many miles to the north lie vast areas of bush where nothing lives but wild game and a few wandering tribesmen driving their herds of emaciated cattle and sheep from one waterhole to the next between the fly belts. Here the vegetation lies thick by the rivers and the rest of the country is covered by rough grass and thorn. During the rains the soil round the waterholes is churned into mud by the hooves of the cattle, to be dried into thick dust in the dry season to follow. Soon it is blown away or washed down the rivers, and bare rock remains.

To many thousands of Africans a man's wealth still lies in the number of his cattle. The more cattle he has, the more wives he can buy. More wives produce more daughters, and these in turn can be sold for more cattle. Why should he sell his cattle to the white man for pieces of metal? When his land is exhausted by grazing and his maize crops, he can move on to more fertile land until that again is exhausted and washes down to the sea in the rains.

This has gone on for centuries, and the great mud-banks blocking the mouths of the rivers in the Indian Ocean are the prosperity of Africa gradually merging into the sea.

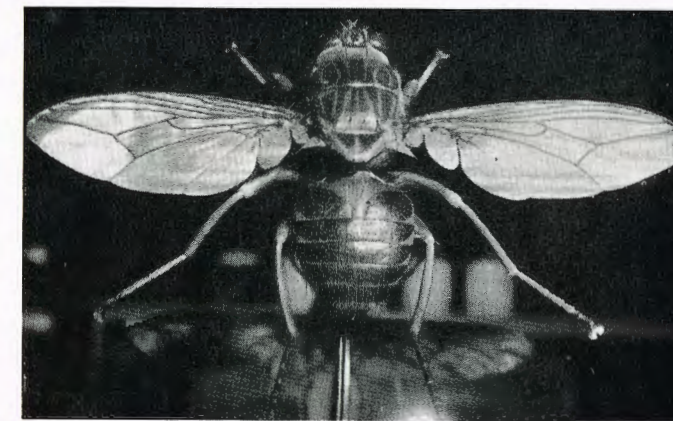
Conservation of Water

Man and beast and crops must have water, and the rivers of Africa cannot be allowed to continue to rush on unchecked carrying with them the country's fertility. The "great green greasy Limpopo" becomes virtually a dry ditch in the upper reaches during the dry season when it could make hundreds of square miles habitable and fertile. Salisbury, the thriving centre of Southern Rhodesia, is acutely short of water, while only two hundred miles away the Zambezi drains away its millions of gallons. Water must be conserved before Africa can be developed.

Many things remain to be done. 'Antrycide' has made it easier to drive cattle to the meat-packing stations, but there are obvious limits to this primitive method of transport. Before meat can be exported there must be proper means to carry it into the world's markets. Railways must be extended and earth tracks made into proper roads. Refrigerating and packing plants must be provided in far

greater numbers. Moreover, Africa has her own people to feed before she exports her meat. There is already a shortage in the Union of South Africa, and this will increase as the Africans become better educated and learn the value of a balanced diet.

'Antrycide' helps in the fight against an important cattle disease. Other diseases have to be cured and other bigger problems have still to be overcome.



The tsetse fly

A SUBSTITUTE FOR SOLING LEATHER

by J. T. Watts (Dyestuffs Division)

In the United States today leather soles are being displaced by a new soling material made from synthetic rubber. This material is cheaper, lighter, up to ten times longer wearing, and more waterproof. Here is an account of this development and of the difficulties which have hindered its introduction over here.

TO keep a nation on its feet requires a great deal of leather; indeed, as much as 80% of the leather output of this country is used to make footwear. Primitive man walked either on sandals or roughly made boots fashioned from untanned hides and laced with thongs. Today there is a tendency under the influence of fashion and modern transport towards lightweight, smart and comfortable shoes. These are manufactured in this country alone at the rate of 145 million pairs per year.

Over the centuries leather or untanned hides have reigned supreme, but in the last fifty years rubber and rubber-like materials have gained in popularity. Although the basic patents for "imitation" leather were taken out in England as long ago as 1855, it is from the United States that the modern surge away from leather has come. Typical headlines from the *American Journal of Commerce* read "Synthetic Battles Way into More Billfolds, Shoes and Suitcases" and "Tough Tussle for Tanners."

Behind this new development lies the remarkable achievement of the American chemical industry and its engineers, who by their skill and efficiency were able to construct and operate a synthetic rubber industry during the vital years between the fall of Malaya and 1944, producing in 1944 approximately 620,000 tons of synthetic rubber. The principal commodity manufactured was GR-S, a butadiene-styrene copolymer which could be used to replace natural rubber for all major applications—sufficient to eliminate the effect of the loss of Malaya on the war effort of the Allies.

The Goodyear Tire and Rubber Co., who operated one of the synthetic rubber plants for the U.S. Government, quickly seized on this new material and discovered that a tough, abrasion-resistant, lightweight material could be produced which resembled leather very much, except that its wearing qualities were outstandingly good. Its application in industries previously dependent on leather has been another success story, following on the original synthetic rubber project.

In 1945 Goodyear introduced a novel soling material under the trade name "Neolite," since when this firm has increased its "Neolite" capacity by 700% and plans a further increase of

40% this year. By 1949, with other producers beside Good-year in the field, about half the shoes worn in the United States—about 200 million pairs—had soles made from material other than leather.

The British footwear industry is showing a lively interest in this replacement of leather. With no home production of synthetic rubber, all our styrene-butadiene rubbers have to be imported from Canada and America, and considerable progress has been made in blending them with natural rubber to produce a hard, stiff, dead yet flexible, wear-resistant material, in most respects like good-quality sole leather. This replacement material is superior to leather in that it is waterproof and wears anything up to ten times better. So far only a relatively small quantity has been made, but even so development has reached a stage when there is a demand for the material in bulk, especially as it would help British boot and shoe manufacturers to hold their own in export markets.

The resins themselves are mixed with rubber and the soling compounds made by normal rubber compounding methods. Suitable fillers are also needed, particularly to economise on the amount of resin, and since most soling compositions are preferred to be non-black, the use of special reinforcing fillers becomes necessary. In the U.S.A. silene, a calcium silicate, is very popular, but here at home silene is only available by import, and experimental work in the Company has shown that 'Winnofil,' a product of the Alkali Division, can be used with advantage. Actual wearing tests are now taking place.

The new soling materials cut, stitch and stick very well and require little modification of the shoemaking processes. They would gradually replace the soling leather, the harder types of rubber (soling) and to some extent crêpe soles. They have considerable advantages over traditional materials, being cheap, light, longer wearing, waterproof throughout their entire working life, and needing fewer repairs.

Few estimates have appeared of the possible size of the British market, but it has been stated that if only 7% of the shoes produced in Britain every year were made with resin-rubber soles, the reduction in leather consumption would amount to £14½ million. Considerable markets also exist in upholstery and flooring and also in the fabrication of luggage.



Tough tussle for tanners



Wearing tests taking place

ALL THIS FROM CELLULOSE

Contributed by Nobel Division

Woodpulp is the raw material for cellulose; and from cellulose Nobel Division today markets a new range of products called 'Cellofas' from which are made the gloss on a new table-cloth, the sparkle of a new detergent and the full body of a synthetic cream.

CELLULOSE has during this century developed into one of the outstanding raw materials in industry. It provides us with rayon, cellophane, newsprint and countless other products. The raw material for cellulose is woodpulp. In Canada, Scandinavia, Finland and Russia, where the biggest coniferous forests are, loggers fell trees, which are floated down rivers to the mills. Here they are chopped up and purified into the white, sheeted material known as woodpulp.

For many years woodpulp has been a major interest to Nobel Division as a raw material for the industrial grade of nitrocellulose, which forms the basis of furniture lacquers, car finishes, leathercloth and even milady's nail varnish. This has stimulated a general interest in cellulose in the Division and led to the development of the 'Cellofas' range of products, which are now fully established in different markets.

Different grades of 'Cellofas' are manufactured for different purposes, and the range consists of 'Cellofas' A, B, C, D Special, E and 'Edifas.' All are soluble in water with the exception of 'Cellofas' C, which is soluble only in alkali. The initial step in the manufacture of all these grades is to treat woodpulp with caustic soda in a Baker-Perkins mixer (closely resembling the familiar baker's dough machine). This gives a product known as soda cellulose.

'Cellofas' has many uses. The housewife is only too familiar with the rapid disappearance of the fine, firm finish which was present on her tablecloth on purchase. Such finishes were based on starch and other materials, which came out in the first wash. Nowadays, however, it is possible to finish articles like sheets and tablecloths with 'Cellofas' C which "stays put," even on repeated washing, and con-

tinues to give the material a satisfactory feel and a full handle.

Again, every housewife knows that today is the age of synthetic detergents. In recent years the compounded synthetic detergents have been made even better by the addition of 'Cellofas' D Special, which helps to provide those dazzling whites sported by little Johnny, whose mother apparently uses somebody-or-other's well-known product.

In this age of vast usage of petroleum, more and more oil wells are drilled. In drilling for oil many snags are encountered, and salty soil has provided drilling companies with one of their major headaches, since the lubricating fluids used in ordinary well-drilling technique are not satisfactory under saline conditions. In such circumstances 'Cellofas' E is used, which when added to the drilling fluid enables the driller to complete the job satisfactorily.

One of the oldest English industries is that of ceramics, based originally on the unique deposits of china clay in Cornwall and concentrated largely in the seven towns known as the Potteries. The production of fine glazes has been carried out by well-known potteries using special formulae for many years, yet it has been possible for 'Cellofas' B to make a valuable contribution to this field, and some of the finest glazes now contain a proportion of this material.

But perhaps the most striking of all uses is that of 'Edifas' A, which is a form of 'Cellofas' rigorously purified to meet the requirements of foodstuffs regulations. Certain synthetic creams in the market today, almost indistinguishable from the real thing, are based on 'Edifas' A. And the pre-war meringue of white of egg and sugar has, alas, given place to the 'Edifas' A substitute.

ARCHERY FOR ALL

The Archer's Craft, a sheaf of Notes on certain matters concerning Archers and Archery, the Making of Archers' Tackle and the Art of Hunting with the Bow. Written and illustrated by Adrian Eliot Hodgkin, O.B.E., M.C. Published by Faber and Faber, price 30s.

Reviewed by Dr. Freeth (Nobel House)

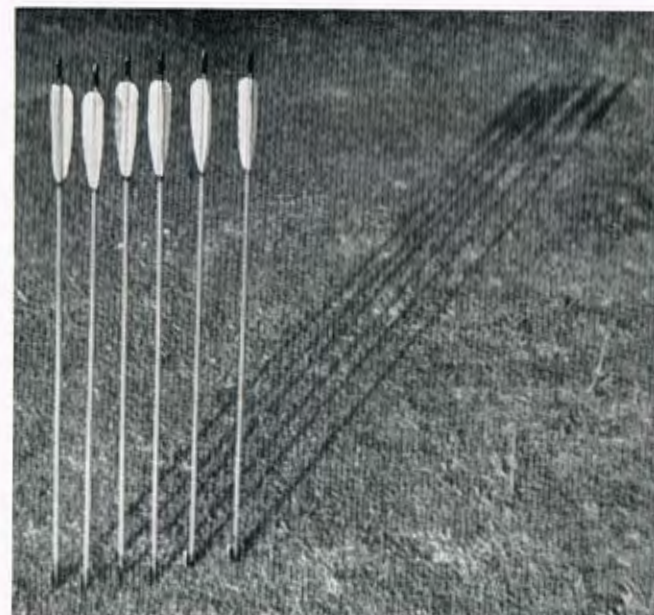
THE author of this book, who was chairman of Plastics Division from 1937 to 1939, is a friend of mine and has been known to me for the last forty years. I knew he could illuminate, engrave a seal, build a boat, paint a portrait on his day and do nearly anything he liked with his hands. When I saw his book announced I was eaten with curiosity, and not only bought one but was presented with one by the author as well. I was so interested and delighted with it that I begged the Editor to let me have a shot at reviewing.

This book is an admirable example of the enjoyment and instruction which may be had from reading a well-written book on an entirely unfamiliar subject. I found to my astonishment that he can make bows, and what is more can tell me how to make them. I am now quite satisfied that I know a good deal about bow making, but am also well aware that if I tried to make one I could not do so!

Part I is historical. You will find a good deal about old Roger Ascham who was tutor to Queen Elizabeth I, about the



Unorthodox, but useful! Note that the whole soles of the feet are flat on the ground, including the heels



Six lives. A newly completed batch of broadhead arrows

famous bowmen of England and accounts of battles written from the bowman's point of view. There is a good bibliography, and in his quotations the author sticks to the original spelling. Part II tells how it is done. This I found fascinating.

Part III deals with hunting and awakes my infant recollections of Fenimore Cooper and *Ivanhoe*. Anyone who has been

in a safe place close to a target at which arrows are being shot will realise what a terrible weapon is a bow and arrow.

The real charm of this book is its friendliness and its intimacy. If you are interested in bows, the author is your friend. It is usual for a critic to make some waspish remark as a postscript. The author draws beautifully and takes good photographs. I wish the proportion of drawings had been higher.

CROSSWORD PUZZLE

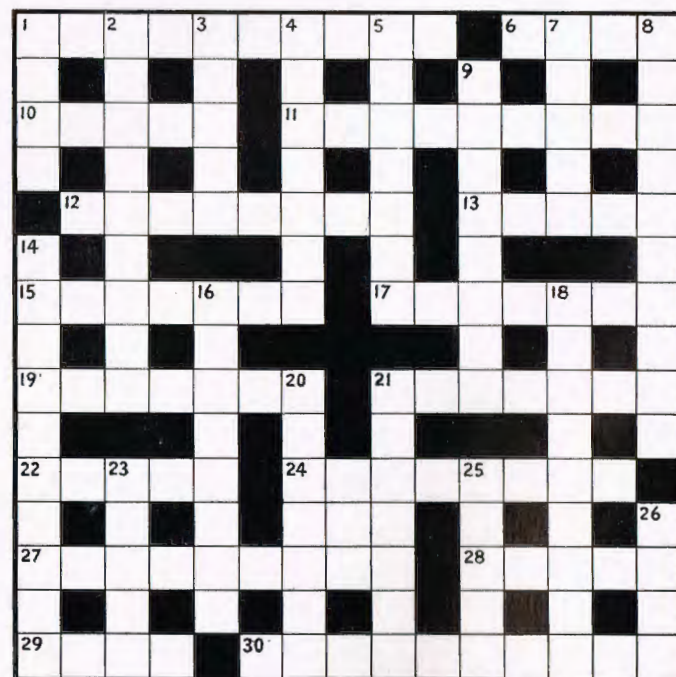
Contributed by D. J. Sealy-Wilson (Paints Division)

ACROSS

1. A pioneer in Dyestuffs. (10)
6. Jack London's is white. (4)
10. Sparse vegetation. (5)
11. I.C.I. drug that may affect the future of Africa. (9)
12. A very different trade if the miner gets ill inside. (8)
13. With reins disentangled a Dyestuffs product appears. (5)
15. Elizabethan cavalry command? (2, 5)
17. Aniline dye nominally associated with battle in northern Italy. (7)
19. A pioneer in Alkali. (7)
21. Maclean will keep your hands tied. (7)
22. Seed giving chocolate. (5)
24. The Foreign Secretary's temporary peerage. (8)
27. Reverting to earlier type. (9)
28. Oscar Wilde wrote about such a husband. (5)
29. "... a dozen eggs." (4)
30. Composed of niece and angel, but still not a graceful result. (10)

DOWN

1. The best known of the Mohicans. (4)
2. 13 across plus linseed oil are used in these. (9)
3. Pioneer in explosives. (5)
4. Can you find the student in a tree? (7)
5. I'm found at the end of the interval. (7)
7. Criminal's *alter ego*. (5)
8. Pledges with horticultural, not chivalric, origin. (10)
9. H. (8)
14. Dramatic guile? (10)
16. Language designed to persuade or impress. (8)
18. Like drink for the gods. (9)
20. Island scene of commando raid. (7)
21. The kind of charms that soothe savage breasts. (7)
23. Calcium carbonate. (5)
25. It is found on planes and cakes but not on plain cakes. (5)
26. Usually suggests the answer and this time is it. (4)



A brief history of TURKISH RUGS

By O. S. Tuygil, I.C.I. (Turkey)

Some of the most beautiful rugs in the world—and the most highly prized by connoisseurs—are those of Turkey, where the rug-making industry is now a notable market for Dyestuffs Division. The patterns of these rugs, the origins of which are lost in antiquity, are the inspiration of the design of many everyday rugs in British homes.

Photographs by courtesy of Messrs. John, South Audley Street, London

ALTHOUGH the origin of rugs, as of many other things commonplace today, is lost in the haze of history, it can safely be assumed that they were one of the earliest furnishings in the tents of the nomadic tribes of Central Asia. The Turks attached great importance to rugs, whether for use as floor coverings or as hangings in tents, and traditionally young girls had to make rugs themselves for use after marriage. From very early times onwards, then, rugs occupied a significant position in Turkish households, yet apart from a few fragments of knotted rugs discovered in Chinese Turkestan nothing remains of the fruits of this ancient Turkish art, and we must come down to the thirteenth century and change the locale to Asia Minor before we can begin to take a rewarding look.

Marco Polo, who during his travels visited Konya in Asia Minor around 1270, speaks of the beautiful rugs made by the Seljuks, who were famous for their fine work in the thirteenth century. It was the Seljuks who introduced rug knotting into Asia Minor, and of their rugs a group of three discovered in the Alaeddin Mosque in Konya, the capital of the Seljuk Sultans, is now in the Evkaf Museum in Istanbul. These rugs, decorated with geometrical patterns and bordered with Kufic writing, are the earliest known specimens showing the Ghiordes knot characteristic of Turkish rugs, and their principal colours are yellow, red, light blue and dark blue. The Alaeddin Mosque was built in 1220, and it is believed that the rugs mentioned were made for the mosque some time during the thirteenth century. The geometric style set by the Seljuks was continued in the fourteenth- and fifteenth-century rugs of Asia Minor, and its influence may be seen in Turkish peasant rugs of later centuries.

There are two other groups of early Turkish rugs from Asia Minor, which, as they date from the fifteenth century,



are the products of the Ottoman Turks. The first—so-called Holbein rugs—acquires its name from Hans Holbein the Younger, in whose paintings can be seen the rich, dark colours and the arabesques and geometric patterns which characterise the group. The borders often show interlacings copied from Kufic writing.

The second group is known as the Star Ushaks. These rugs may have decorations consisting of a large central medallion or of several large stars and floral scrolls and arabesques. Executed in lighter and brighter colours than the "Holbeins," these rugs were

imported into Europe most probably by the Venetians, and figure in many sixteenth- and seventeenth-century paintings. Judging by the fact that rugs in the paintings of many Italian, Flemish and Dutch masters have a place of honour on tables, it may be assumed that rugs imported from the East were originally used as tablecloths—elevated from the position they occupied on the floor in the land of their manufacture.

During the reigns of the Ottoman sultans, Selim I (1512-20) and Suleyman the Magnificent (1520-66), the carpet manufactories of the court at Istanbul, established by Selim, produced rugs of unexcelled magnificence. Known as Ushaks, these rugs are the Turkish counterparts of Persian medallion carpets, and the Persian influence can be directly attributed to the various occupations of the Persian capital, Tabriz, by the sultans' forces, with the resulting flow of artisans to Istanbul.

In keeping with the opulence of the court, the Ushak rugs are themselves rich in red, dull gold, blue and dark green. They have one or two central medallions and are ornamented with arabesques. Later rugs usually have one central medallion with its quarters repeated in the four corners of the field, which consists of intricate leaf and floral patterns in green, gold and blue on crimson ground. In these floral rugs the Turkish



A GHIORDES PRAYER RUG. Woven in about 1750, it would originally have been used for praying on special occasions. The prayer knelt in the central panel, whose arch indicates the direction of Mecca. Wear from generations of knees and feet (seen faintly in the picture) is one of the marks of a genuine prayer rug. This specimen measures 5 ft. 11 in. by 4 ft. 8 in. and is worth about £200.

artisans created a simple luxuriousness of pattern and colour effects that today is still magnificent and outstanding.

So far we have been concerned with rugs having no other connotation than the purely artistic, which we might call secular. Yet there is another facet of the art of Turkish rug-making which equally deserves attention: that of the prayer rugs. These rugs are of small size and do not attain the impressive dimensions of the palace rugs. As their characteristic feature they have a central panel representing the niche, or

mihrab, which in the mosque indicates the direction of Mecca towards which Mohammedans face at the time of prayer.

The arch of the niche may have a variety of shapes and forms, and is sometimes supported by two columns resembling the candelabra which stand on either side of the *mihrab* in a mosque. Ornamental devices representing mosque lamps, ewers or baskets of flowers often hang from the apex of the niche in the rug, and the central panel is bordered with floral motives schematically showing tulips, hyacinths, roses and



A TYPICAL USHAK RUG, of the type woven in the 17th century 'for export only' to the courts of Europe. The pattern in this specimen, is unsymmetrical because one end (the top, in the picture) has been damaged and only partly rewoven. Ushaks are at present less fashionable than other Turkish rugs and command lower prices.



WOVEN 200 YEARS AGO, the colours in this Kula rug glow as if new. The prayer inscribed in one of the upper panels shows that this rug was made to be placed on the tomb of a relative. The borders of flowers and fruits are typical of Kula and Ghiordes rugs: often they can only be told apart by experts.



A BERGAMA PRAYER RUG, with its unmistakable angular pattern. The best examples of these rugs were woven in the seventeenth century. They are often known as Transylvanian or Siebenbürgen rugs, from the fact that they are found in churches in Transylvania and Hungary.

carnations. Such rugs were woven at the court manufactories in Istanbul, but in the hinterland of Izmir four towns claim distinction as the seats of some of the finer Anatolian prayer rugs. The largest group of these rugs, and probably the finest in texture, comes from Ghiordes (Gordes), although it is difficult to differentiate Ghiordes rugs from those of Kula, which is close by.

In these prayer rugs is achieved a poetry of pattern and colour strongly imbued with a sense of the spiritual, each artisan injecting into the form his own conception of eternal values. This art, however, did not persist, and after the magnificent examples dating from the eighteenth century we find nothing that can be compared with them.

Although the art of rug-making waned after the eighteenth century, in an effort to revive this craft and to establish a centre from which the court and European buyers could be supplied an imperial manufactory was founded at Hereke, some forty miles east of Istanbul. The early output of this manufactory ranked in quality with the best of the seventeenth- and eighteenth-century rugs, and many fine examples of this work are now to be found in European museums.

The late nineteenth century brought about a decline and a commercialism in rug-making from which this craft has not

recovered. With the advent of machine-loomed rugs and the popularity acquired by their dark monochrome patterns, the taste of Turkish rug-weavers had to succumb to that of the West in order to keep the industry going.

It is the old story of an inheritance being sold for a mess of pottage, but who can blame the craftsmen if they could not afford to wait for the pendulum of taste to swing back, and were forced to produce what a commercialised demand hankered after? The upheavals that took place in Asia Minor, particularly in the hinterland of Izmir, after the first world war did nothing to aid any resurgence of the craft that might have been possible. Not that there is no rug-making going on in Anatolia today. The Hereke factory, now sponsored by the Government, makes rugs on its own looms and also farms out piecework to skilled workers living in the surroundings, supplying them with the necessary patterns and yarns. In the Izmir hinterland also are several factories, mostly privately owned, which farm out work to families operating a loom or two in the house.

At present, unfortunately, exports are not what they used to be, and rugs which were originally a household necessity are classed as luxury goods at a time when luxurious living is not the order of the day.



The author with three of his greyhounds

The Breeding of Greyhounds

By Tom Parry (Alkali Division)

The greyhound has been aptly called "the working man's racehorse," and in their breeding many a working man has found a hobby both fascinating and profitable. If you wish to breed from a bitch—whether a greyhound or not—then you cannot do better than follow the advice of this article, in which the stable secrets of stud management are revealed.

THERE'S a promising youngster! True to type! He's a good 'un!" Every breeder of greyhounds has made remarks like these with pride and satisfaction at having achieved the first stage in breeding a potential champion, either in the coursing field or on the tracks.

This great moment is open to capture by any man—given only enthusiasm, a little patience, luck, an average-sized purse, and a suitable kennel. The breeding of greyhounds is an interesting and profitable sideline, and for the benefit of any who may want to try their hand at it I give the following hints on whelping and rearing—hints, incidentally, which apply to all breeds of dogs.

First let us see what a suitable kennel means. This should be a lofty apartment about 10 ft. square with good light; there should if possible be a grass run attached, although this is not absolutely essential. The kennel must be draught- and damp-proof, as these are the worst enemies of mother and puppies. A sleeping bench 4 ft. × 2 ft. 6 in. should be built along the back wall, raised from the ground about 2 ft. to allow for cleaning underneath, and a 6 in. board should run along the sides of the bench away from the wall to prevent the bedding falling off.

Wheat straw is the most suitable bedding, and this should be placed on the bench, not flat but resting against the wall



WATERLOO CUP WINNERS OF SEVENTY YEARS AGO. *Mister-ton (left) won the Waterloo Cup in 1879 and stakes to the value of £1600.*

WATERLOO CUP WINNERS OF TODAY *with their trainer, Mr. Harry Hoad. The black dog, Peter's Poet, won the cup in 1951 and is now retired to stud. The fawn bitch, Rockabye Baby, is a Waterloo Plate winner. Note how the modern breed has grown heavier as compared with the graceful dog of the last century.*



Princess Dagmar(right) won the Waterloo Cup in 1881 and stakes to the value of £500



(Prints reproduced by courtesy of Fores and Co., New Bond Street)

(continued from page 113)

at about 45 degrees. Your bitch will then make her bed as she likes it. Keep sawdust on the floor and sweep and renew daily.

Having decided that the kennel is now ready to go into production, let us take a page out of Mrs. Beeton's cookery book on how to cook a goose; she states, "First get your goose"; I say, "First get your greyhound."

If you want puppies, then a bitch it must be, and she will be known as a brood bitch. The quality can only be decided by the size of your pocket, but it should be possible to pick one up from your local track—one whose racing days are over—for a few pounds. Two or three years old is a most suitable age. Your next step is to register the change of ownership with the keeper of the stud book (do not purchase a bitch that is not already registered). I suggest that when you get her home you exercise on the lead for a few days until she has made friends with you, when you may allow her off the lead to take her exercise; otherwise she may wander off and get lost.

Then comes the job of selecting a suitable stud dog for mating when the time comes. The stud fee may vary from five to fifty guineas for top-class dogs, but it is sometimes possible to



arrange for a service in return for one of the whelps. At the first sign of the bitch coming in season it is advisable to worm her to ensure that she is inwardly clean and that she, and not the worms, will get the benefit of the food during the important sixty-three days after mating. Worm capsules can be obtained from your local chemist, but please read and carry out the directions on the box. The bitch will be in season for nearly three weeks, and the beginning of the second week is the best time to mate her.

The suggested feeding from now until whelping is two meals per day—a light meal in the morning consisting of three rounds of toast soaked overnight and strained with about three-quarters of a pint of warmed milk added; and an evening meal about three times as much in quantity but not as sloppy and made up of dog biscuits soaked with soup made from bones, or a sheep's head, or any meat scraps. A few "greens" should be included in the soup, as it helps to keep the blood cool. Separate the meat from the bones and cut up or mince; when the biscuits are soft, add the meat and squeeze into a mash. Boiled fresh cod's head makes a suitable and nourishing change if the meat supply is difficult. After six weeks from mating increase the milk ration up to one pint with the morning feed.

Regular Work

The exercise during this period up to whelping should be as follows. Exercise on the lead only until the attentions of all the local dogs has ended. From then on the bitch should be given her entire freedom, with regular road work in addition for about six weeks only. The sleeping bench should now be removed and replaced by a whelping box. This should be about 5 ft. square and open at one side; this side should have a 6 in. board across just to keep the straw in the box and prevent the whelps getting out; the remaining three sides should be 3 ft. high, and the whole box should be raised about 3 in. off the floor. A little ramp should be built on the open side to assist the whelps getting in and out when they can run about.

Wheat straw should again be used resting against the three tallest sides, and the bitch herself will arrange things her way—she may remove all the straw from the floor and pile it round the sides. Remember, you are not helping things if you put it back, as she will only shift it again, and she has quite enough to worry about without your interfering.

All is now set for the big moment, so do not be like an anxious father, as the actual whelping is the easiest part of all, and if the bitch has been properly fed and exercised she will deliver her whelps without assistance and without trouble—so just leave her alone. You won't be able to teach her her job; if the "local" is open, then go and have one or two—you will be doing more good at the bar than in the kennel.

After the great event is over, give her a feed of sloppy milk and toasted bread and continue with this feed three times per day for the next three or four days, then gradually work back to her normal diet twice per day with a little extra meat.

Do not be disappointed with the appearance of the whelps and get the idea that the mother has been too friendly with that mongrel down the street, because at first they will seem pug-nosed little mites. After about a fortnight there will be

no mistaking their breed. You should then register the litter with the keeper of the stud book, stating sire and dam, number of whelps, sex and colour.

At three weeks old the whelps should be taught to feed from a dish, first with warm milk and later with soaked puppy biscuits added. But be careful not to overfeed them until their bellies seem ready to pop. When the whelps start running about it is wise either to bring the sleeping bench back into the kennel or to build a shelf so that the mother may get a little peace from the ever-hungry mouths and the needle-sharp claws, which should now be cut with sharp clippers.

By the time the whelps are six weeks old they should be having three meals per day of normal food and weaning should begin. To replace the milk from the mother two extra feeds per day should be given, consisting mostly of milk. To assist the mother to get rid of her milk it is advisable to rub her with camphorated oil, which should dry up the milk in two or three days. From now on she should be given normal exercise and feeding to build up her strength again.

It is wise to worm the whelps at this age. Again let me stress the importance of reading the directions on the capsule box.

Exercise is now one of the most important things, and if possible absolute freedom should be given and plenty of bed space well covered with straw where they can rest at will.

At four months the milk teeth of the puppies (as we now call them) will be dropping out. Keep an eye on the puppies, as a little assistance may be required by the larger teeth. The diet should be slowly reduced to three feeds per day and later to two feeds—larger feeds, of course. Use a feeding bowl for each puppy to ensure that the slower eaters get their own ration. They must now be kept fit and strong, ready to fight any puppy ailment which may crop up. It is a good thing to add a few spots of lime water to the morning feed. This assists in bone formation.

Hardening Up

When the ten months stage has arrived (we now call them sapplings) start to think about hardening up the feet and muscles by giving road work, in easy stages at first and working up to about six miles per day at a speed of about four miles per hour.

At twelve months you should be able to see which of the litter is likely to be able to "catch pigeons," and if you feel like going a step further in this game, namely racing, then you should keep the fastest yourself and sell the rest. If you ask any old greyhound man what is meant by "true to type" he will most likely quote the following:

Head like a snake,
Neck like a swan,
Back like a beam,
Tail like a rat,
Feet like a cat.

A few weeks back I had the pleasure of visiting Mr. Harry Hoad, who trained last year's Waterloo Cup winner, and after looking through his kennels I asked him his opinion on successful training. I quote his reply: "When you have mastered the art of feeding you have reached the apex of training."

I.C.I. NEWS

DR. FREETH RETIRES

DR. F. A. Freeth retired on 31st March after 45 years' service with I.C.I. and its predecessors.

Francis Arthur Freeth, of whom an eminent colleague has said that he has become a tradition in his own lifetime, was born in Birkenhead in 1884. His father, Edward Henry Freeth, was a master mariner, captain of an Atlantic liner. By the time he was 6 years of age young Freeth had crossed the Atlantic five times. He tells of how he was asked by an American, when in the U.S.A. on a Government mission during the last war, whether this was his first visit to the country. Dr. Freeth was able to say "No, my sixth." "Indeed," said the American, "and when were you last here?" The answer was "In 1889."

Dr. Freeth comes of a family the members of which have always served in the armed forces. He himself was a brevet-major in the Territorial Army when he resigned his commission in 1927. He was first commissioned in the 5th Cheshires in 1912, and the fading telegram from his adjutant ordering him to join his regiment at Chester in 1914 used to hang on the wall of his room, as did the order written by a major near Ypres in 1915, on a page of an army field message pad, ordering him to return to England on important duties connected with munitions.

After graduating with first-class honours in chemistry at Liverpool University in 1905—M.Sc. 1906—young Freeth joined Brunner, Mond & Co. in 1907. He was appointed to the newly founded research department at Winnington, and he tells of how he arrived at his lodgings in Northwich accompanied by a porter pushing a handcart piled high with scientific apparatus. He was given an extraordinary amount of latitude in his work, and in his own words he shot up like a cork. He started off almost at once on the phase-rule, in which subject he attained such distinction that even now he is often known as "phase-rule Freeth." Within the next few years he and Mr. H. E. Cocksedge, who subsequently became

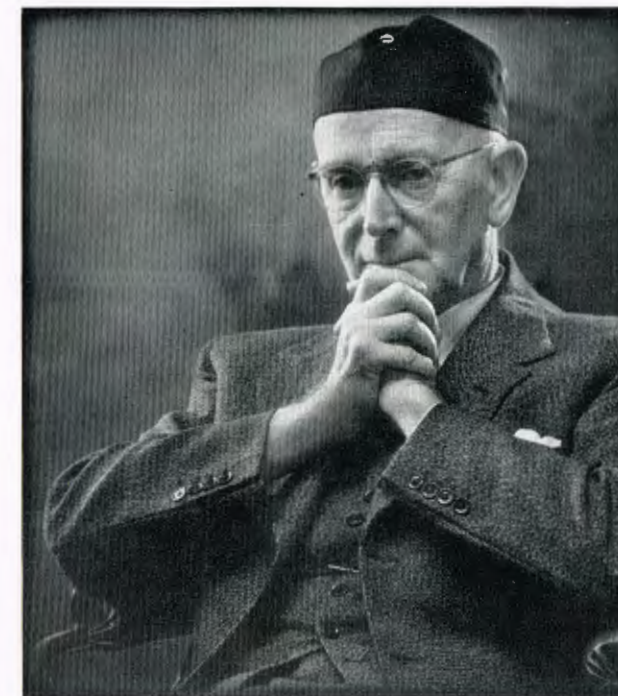
his brother-in-law, worked out in principle a number of processes for the preparation of ammonium nitrate which were to become of great importance during the first world war. It was to assist in developing these processes that he was recalled from active service in 1915. In addition he soon devised two processes for the purification of T.N.T., which were effective stop-gaps but were later superseded.

His services during the war were recognised by the award of an O.B.E. in 1918. The first Lord Melchett described the work done by Dr. Freeth during the war when he addressed the Chemical Industry Conference in May 1928. He said:

"During the war this country was in a very serious condition in regard to high explosives. An explosive which was practically unused by us in the early days of the war became the chief explosive of ourselves and our allies. It was a question of turning out T.N.T., and methods had to be devised in which

tonnage replaced pounds. In the manufacture of ammonium nitrate no method had previously been known of producing it in hundreds of tons. All we could find were the textbooks which said the various methods had been tried but that they had been unsuccessful. We had on our staff an eminent and distinguished scientist in the person of Captain Freeth. He applied the theoretical work of Willard Gibbs to the practical problem of production on a large scale and helped us to work out a process to produce thousands of tons and, I can say without exaggeration, saved the Allied forces in the field."

In 1919 Dr. Freeth first visited Holland and became acquainted with many Dutch scientists with whose work he was already so familiar. He made such an impression during a visit to the University of Leyden that he was told if he wrote a thesis he would be granted a doctorate of the university. This he did, and was awarded the famous doctorate in the Faculty of Mathematics and Physics in 1924. He was made a Fellow of the Royal Society in the following year. In 1930 he delivered



the May Lecture at the Institute of Metals. He took as his subject "The Influence of Technique on Research." His lecture contained a good deal of prophecy which has since been fulfilled.

On the formation of I.C.I. Dr. Freeth came to London, where after some time he became joint research manager of the Company with Mr. W. Rintoul. They were an oddly assorted pair, but Dr. Freeth describes theirs as a very happy partnership.

During the recent war he was engaged in highly confidential Government work which took him to the U.S.A. for a year. Since 1944 he has been in the Central Staff Department, where he has combined his lifelong interest in research with a great variety of other activities. He is keenly interested in chemical engineering, and since 1950 has been vice-president of the Institution of Chemical Engineers, where he has become very active. He lectures a great deal all over the country and has lectured for the British Council on many occasions.

He has always been tremendously interested in young people, and has advised and directed many young men at the beginning of their careers, both within the Company and outside. In his early career at Brunner, Mond & Co. he was employed in the recruiting of scientific staff. Several members of the present Main Board of I.C.I. and numerous other highly placed officials were engaged by Dr. Freeth. While engaged on this work he naturally kept in close touch with the universities, and indeed during the years he has been in London he has remained a most valuable link in this respect.

Dr. Freeth is an omnivorous reader, a student of typography and an avid collector of rare books. His office bookshelves used to show the wide range and catholicity of his taste. His favourite quotation is from the Bible. ("We were great Bible readers in my young days," he says.) It is found in Ecclesiastes IX, 11:

"I returned, and saw under the sun, that the race is not to the swift, nor the battle to the strong, neither yet bread to the wise, nor yet riches to men of understanding, nor yet favour to men of skill; but time and chance happeneth to them all."

ALKALI DIVISION

Academic Distinction for Mr. L. M. Clark

Mr. L. M. Clark, who has been Technical Service Manager of Alkali Division since 1949, has recently been awarded the Doctorate of Science of Cambridge University, one of Britain's highest academic prizes.



Mr. L. M. Clark

"L.M." was at Sidney Sussex College, Cambridge, from 1919 until 1924, when he left to join the National Physical Laboratory at Teddington. In 1928 he came to the Research Department at Winnington and in 1933 was appointed Technical Service Manager. In 1939 he became Assistant Research Manager. Ten years later he was appointed Technical Service Manager, his present post. He was a director of 'Alfloc'

Ltd. (subsidiary of Alkali Division) from 1934 to 1940.

"L.M." is an enthusiastic and experienced angler and has

fished in many countries all over the world. He is also a keen and original bridge player, but he enjoys his bridge with a laugh.

BILLINGHAM DIVISION

Presentation to Dr. Fleck

Dr. Alexander Fleck, Deputy Chairman of I.C.I., was recently presented with an eighteenth-century grandfather clock by members of Billingham Division, present and past, with whom he was associated during his many years at Billingham.



Dr. Fleck (left) receives a memento from old colleagues

Our picture shows Dr. Fleck (on the left) with Dr. G. I. Higson (centre), who became Billingham Division chairman last year, and Mr. A. T. S. Zealley, who was chairman of Billingham Division until he was appointed Group C Director on the Main Board last year.

Billingham Team at Sindri

The team which went out to Sindri last summer to assist in starting up the Indian Government's sulphate of ammonia plant are fully upholding the best Billingham traditions of loyalty and hard work, reports Mr. F. M. Ray, Division Personnel Director, after returning from a visit to the plant.

"They commemorated my first week's visit by producing 350 tons a day," he says. "That is the highest output yet, but still some distance from the flowsheet output of 1000 tons a day."

"The quality of the gypsum used at Sindri is very poor, and every bit of the 1500 tons a day required for full production has to be brought 1200 miles by rail from Bikaner. For the first 400 miles, from Bikaner to Agra, the stone travels on a narrow-gauge railway. At Agra it has to be offloaded and loaded on to broad-gauge trucks for the remaining 800 miles of its journey. A trainload takes about a fortnight to travel from Bikaner to Sindri."

"The gypsum at Bikaner lies very close to the surface, and usually only a few inches of overburden have to be removed to expose the deposit, the depth of which varies from about



The Billingham team at Sindri. Left to right: B. Vaughan, H. Pennington, A. Skipp, Dr. G. A. Pike, F. Pattinson, D. Chappell, J. Law, A. Thomas, N. Bainbridge.

3 to 8 ft. The larger lumps are normally loaded into panniers carried by camels and the smaller pieces into panniers carried by donkeys. A large number of women coolies are used to carry bowls of the fine material on their heads to the place where it is to be loaded into bogies for transport to the narrow-gauge railway trucks.

"All the members of the team are thoroughly enjoying the experience at Sindri, although looking forward to coming home in August."

Anhydrite Miner's Visit to America

Mr. Michael Scott, anhydrite miner from Billingham, sailed for New York in the *Queen Mary* on 6th March as a member of



Mr. Michael Scott

an Anglo-American productivity team. The team is to investigate and report on the heavy chemical industry in the United States, and during their six-week stay there members will visit chemical plants in Texas and other of the southern states. They have already made a brief tour of chemical works in the United Kingdom to provide themselves with material for comparisons.

Mr. Scott will make a special study of labour relations and will pay particular attention to joint consultation, mechanisation and welfare schemes generally. A lifelong trade unionist, he takes with him considerable practical experience in this important field. He has been branch secretary and shop steward of the Transport and General Workers' Union for the past nine years and is a member of the district committee. He is president of the Billingham Social Club and organiser and chairman of its Workers' Education Association Classes. He has been with I.C.I. since 1940.

An Idea that created a Flap

Miss Joan Peacock, of Billingham Medical Department, is both observant and practical. She is the sort of person who, when something goes wrong, looks for the cause and, having found it, tries to find a remedy. That is why the breast pockets

of I.C.I. overalls and boiler suits are going to be fitted with flaps.

One of Miss Peacock's jobs as secretary to Dr. F. H. C. Beards, the Division Medical Officer, is to make optical appointments for employees and, when their glasses are broken, to arrange for them to be repaired. Some months ago, as a result of her questioning, she came to the conclusion that most of the breakages were caused by glasses falling out of overall breast pockets—usually when the wearers bent down or stooped to pick up something. If, she thought, breast pockets were fitted with flaps, the glasses would be safe and wearers would be saved unnecessary inconvenience and expense.

She put her idea to Dr. Beards, who thought it worth while. He passed it on to the labour manager. The labour manager sent it to the supply manager and the Central Labour Department, who put it up to the Clothing Panel. The supply manager has now been informed that the overall suppliers are to fit the pockets with flaps at an extra cost of only a few pence.

DYESTUFFS DIVISION

Olympic "Possible" in Nylon Stable

Mr. Harry Whittle, a 30-year-old Nylon Works engineer, has been nominated a possible hurdler for the Olympic Games, to be held at Helsinki in July.

Although the actual selection of the British team will not take place until just before the games, local opinion regards Mr. Whittle as better than a probable, both on his present form and his past record.

His record is impressive. At the age of 25 he won the British A.A.A. championship for long jump and 440 yards hurdles. He has since won the hurdles event another four years in succession, the long jump title twice, and the decathlon once, so that he has won eight titles in all. He also holds the British national record of 53.4 seconds for the 440 yards hurdles; Lord Burghley's best was 53.8 seconds. He represented Great Britain at the 1950 European championships, at the Empire Games in New Zealand in the same year, and in the Balkans last year, when he was captain of the British team.

At Billingham's Synthonia Club Mr. Whittle is vice-captain of the athletic section; as such he not only competes for the club but trains promising hurdlers and high-jumpers. When Billingham Division's Norris Trophy became open for competition by teams from other Divisions with works at Billingham, Harry Whittle was appointed captain of the Dyestuffs team which took the trophy away from Billingham Division for the first time.

If conscientious training and the best wishes of his friends can get him there, he will be at Helsinki this summer to win the 400 metres hurdles event for Britain.

'Alkathene' Balloon at Children's Party

At a recent children's party Woodlands Club took a leaf from Bristol University's notebook and released an 'Alkathene' balloon. The balloon was made from the liner of a 40-gallon drum—a form of packing used for certain of Dyestuffs Division's products. The neck was given a slight taper so that the envelope could easily be filled with hydrogen.

When the children arrived for the party the 'Alkathene' balloon was floating above the lawn anchored to a brick.



An 'Alkathene' balloon is ceremonially cut adrift at a Woodlands Club children's party

Then the big moment for the release came: a very small girl with a very large pair of scissors cut the anchor line, and the balloon sailed off speedily in a south-easterly direction, bearing a postcard which asked the finder to return it to Woodlands Club.

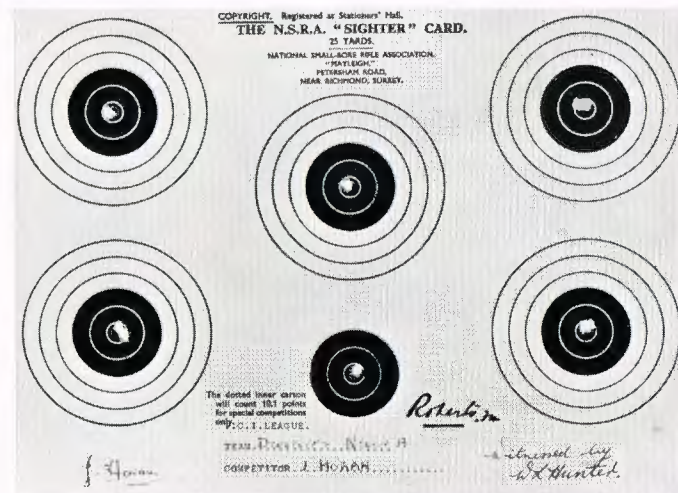
The balloon was released at 2.15 p.m. It was found at Braunston, near Rugby, at 7.30 a.m. the following day.

Straight Shooting

The target reproduced below represents the best-ever card shot at Synthonia Club. All ten shots have scored bulls—there are two shots each in the outer bulls—and in many competitions would have scored 101.

The man behind the rifle was Mr. Jimmy Horan, a turner at Nylon Works. He is a most ardent and active member of Synthonia A team and a member of Nylon Works Miniature Rifle Section. He has only been shooting since 1948, but the sport has now got him well in its grip.

In the West of Scotland open meeting last year Jimmy Horan won the 50 yard and 100 yard shoots. In the Company shoot his average is 99.



101 out of 100: record of a record-breaking shoot by Mr. Jimmy Horan

G3GKG calling the World

Mr. Brian Horsfall, 23-year-old laboratory assistant in the Biological Department at Hexagon House, says that although his work in the Virus Section introduces him to many diseases he has yet to learn of a bug which bites as deep as the radio bug.

After starting in his early teens with crystal and single-valve sets, he became a fully fledged transmitting amateur, or "ham," two years ago and has worked hundreds of different stations as far apart as Malaya, South Africa, the U.S.A., and a lonely little place called Arctic Bay on Baffin Island in the North-West Territories of Canada.

With the exception of the frequency meter, which is a U.S. Navy pattern, Mr. Horsfall's equipment is all home-built from Government surplus materials. He uses a fourteen-valve transmitter with a power output of 120 watts. His receiver is rather ambitious: it has fifteen valves and is home designed and home built.



Mr. Brian Horsfall calls up a fellow "ham" on his home-made transmitter

Like all amateurs, Mr. Horsfall had to satisfy the Postmaster-General by passing examinations in technical and morse ability. His first licence and call-sign only entitled him to transmit at reduced power (a maximum of 25 watts), in morse, for a year. Afterwards, when he was granted a full-power telephony licence, the station found its voice.

For "hams" the world is divided into forty geographical zones, and each country has its own prefix in call-signs. G is England, GM is Scotland, W is U.S.A., VE is Canada, and ZL is New Zealand. Mr. Horsfall's call-sign is G3GKG. Through his radio contacts he has made some very good friends, though he has never seen them. About half a dozen "hams" work in the Hexagon and Blackley areas. Mr. Horsfall thinks there must be many more in other I.C.I. Divisions and covets the idea of organising an I.C.I. "net" on 40 metres.

LEATHERCLOTH DIVISION

A Tribute to the Late King

The poem printed on the next page was written by Mr. R. Hammond, Division Publicity Officer, on the occasion of the death of His Majesty King George VI. He sent it to the Queen, and received in return a letter of thanks and appreciation of his sympathy.

Mr. Hammond has previously had two poems acknowledged by Her Majesty: one was written as a congratulation on the birth of Prince Charles and the other as a greeting for his first birthday.

REQUIEM

*What better requiem than this
Millions of hearts which throbbed in time with his
Missing a poignant beat as if to prove
The depth and rhythm of a nation's love?*

*Could man be more than this—a noble King
Yet still so human that his death would bring
To every grieving British heart a flame
Of thankful glory—that they served his name.*

*No proud, vainglorious majesty was here,
But love so deep and friendship so sincere
That all might read the message in his face
"God chooses human vessels for his grace."*

*Now thank we all and praise his well-loved God
For that high courage in whose strength he trod
And pray his glories may again be seen
In his beloved daughter—and our Queen.*

LIME DIVISION

Veteran First-aider Retires

On the last day of 1951 Mr. Alfred Mathews retired from the Company after 48 years and 11 months' service.

Alf, as he is universally known, started as a storekeeper with Buxton Lime Firms in 1930. He gained steady promotion, and in 1921 became foreman of the Division Wagon Repairing Workshops. Seven years later he was transferred to the new South Central Workshops, of which in 1937 he was appointed superintendent, and as such he spent the remainder of his time with the Company.

Alf Mathews' chief claims to distinction are not restricted to his engineering experience. In the village of Peak Dale he is chairman of one of the most successful bands in the High Peak area. At the local church he is Vicar's Warden. He spends any spare time in teaching first aid, in which he himself has had a lifelong interest. After gaining his certificate in 1908 he captained the South Central Workshops team for many years and was a leading light in training and encouraging the teams from that works which won the finals of the I.C.I. First Aid Competition both before and after the second world war.

All his friends wish Mr. Mathews a long, happy and active retirement.

METALS DIVISION

He Flies through the Air

War service in the Tactical Air Force left Mr. David Ince, a member of the Technical Service staff, with an unsatisfied appetite for flying. But piloting 500 m.p.h. fighters is not on the list of practicable hobbies, so in 1947 he turned his attention to another branch of flying and joined the Midland Gliding Club. Since then he has spent some 350 hours in the air. His longest flight was in August 1949, from Long Mynd, Shropshire, to Caister on the Norfolk coast—192 miles.

Within the last few months Mr. Ince has added two notable achievements to his successful record. First he was appointed the club's chief flying instructor. Now he has been chosen

as reserve pilot for Britain in the international gliding championships to be held in Spain this summer.

Mr. Ince's war service earned him the award of the D.F.C.

Meritorious Service

Mr. A. W. Markes, of the Kynoch Works Police, has just received a reminder of the army life he left behind him sixteen years ago. It is the Meritorious Service Medal which he was awarded for 21 years' loyal service to King and country, but which, owing to under-production of the medal itself, has only now been sent to him.

Mr. Markes joined the 2nd Battalion of the Royal Warwickshire Regiment as a recruit at the beginning of the first world war. After wartime service in France he decided to make the army his career, and subsequent tours of duty took him to India, the Sudan and Ireland. During his time in India he was appointed Garrison and Regimental Provost Sergeant, and it was with the rank of Garrison Provost Sergeant that he retired from Army life in 1935.

Mr. Markes then joined the Kynoch Works, and today he is one of the best-known members of the works police. He has decided and somewhat controversial views about the army of today, but no doubts that his choice of career was the right one for him. Trim, soldierly and brisk at 60 years of age, he is certainly an excellent advertisement for the Army of yesterday.



Mr. A. W. Markes

NOBEL DIVISION

Launch of m.v. Lady McGowan

On 12th February a motor coaster for the transport of the Division's explosives was launched from the shipbuilding yard of Scott & Son at Bowling. Mrs. W. J. Jenkins, wife of the Division chairman, named the vessel *Lady McGowan*, and the vessel moved down the slipway to be safely waterborne on the Clyde. Tugs took over and moved her up-river, where the engines were to be lowered into place before she returned for fitting out at Bowling.

The launch was watched by Sir Arthur Smout, members of the Nobel Division board and other Division officials, accompanied by their wives, and by representatives of the shipbuilders and of Lloyd's. It was also keenly watched by shipyard workers and others who had come along, as folk do on Clydeside, to cheer yet another vessel on its way to the sea. "A good launch," said everyone; and a good launch is a good start.

The m.v. *Lady McGowan* is designed for the coastal transport of explosives in bulk. She will be a valuable addition to Nobel Division's small fleet of ships which operates from Garnock Wharf, Ardeer. Her capacity will be 450-500 tons of explosives, plus fuel oil, fresh water and other sundries. She is fitted with British Polar engines, similar to those in the tug *Turmoil*, and should have a cruising speed of 10½ knots. The navigation equipment includes radar, a Decca Navigator, echo depth-sounder and chart recorders, and radio telephone. Much



Nobel Division's new explosives vessel, the m.v. Lady McGowan, leaves the slipway at Scott's Yard, Bowling

thought has gone into the design of accommodation for the crew. Each member has a well-fitted cabin, and there are spacious messrooms and an officers' smokeroom, all with wireless sets.

Trials of the new ship are expected to be run in May, and it is hoped that the m.v. Lady McGowan will make her first service run in late June.

First Aid Distinction for Roburite Foreman

Superintending Foreman Mr. J. Fyles, of Roburite Factory, is a notable St. John Ambulance Brigade man in the Wigan district. He has had a lifelong interest in first aid, and within I.C.I. his skill as a tutor is reflected in the achievements of the Roburite team. In January Mr. Fyles was appointed corps honorary secretary and also secretary for the National Hospitals Service Reserve for Wigan. In this new work his keenness and energy will be used to the full.



Mr. J. Fyles

His interests are not by any means confined to first aid at work. In his leisure he has taken an increasing part in the affairs of the Wigan Corps and its Divisions. He helped to found the Orrell Division St. John Ambulance Brigade and was appointed ambulance officer and

treasurer. He was later promoted to be divisional superintendent and became instructor in first aid and home nursing to the Lancashire Higher Education Committee. His enthusiasm in all these posts helped greatly in building the strength of the Orrell Division and in stimulating first aid interest throughout the area. In 1937 he passed as a Grade I lecturer on war gases and trained the police and Roburite Factory A.R.P. squad.

For all his notable first aid work and general A.R.P. duties before and during the first years of the second world war Mr. Fyles was awarded the B.E.M. in 1943.

Legion Appointment

Ex-Provost A. Green, who works in Portland Glass Company's Engineering Department, has been appointed president of the Irvine Branch of the British Legion. He succeeds Major McKenzie, who also worked with Portland Glass Company until his retirement in 1947.

Ex-Provost Green is a busy man in local affairs. Last year he was president of Irvine Burns Club, and he serves on many town committees. He is also a member of the Scottish Board for Industry.

The Browns hold a Birthday Party

Brown's Merry-makers, Ardeer Recreation Club's dance orchestra, held a birthday party on 22nd February. It was a merry party, a fact that will not surprise those who have danced to the band for thirty years and appreciate how they earned their name.

The leader of the band, Mr. T. F. Brown, has had long service in the Research Department, and his brother David is



Leader of Brown's Merry-makers, the Ardeer band that is thirty years old: Mr. T. F. Brown

a foreman in Portland Glass Company. The third brother, George, is drummer. Nowadays this mature dance band has many additional players, but the nucleus of three brothers, from a notable musical family in Kilwinning, is still at the heart of the combination.

Over thirty years ago, on 22nd February, 1922, Tom, David and George Brown made the small first appearance of the Merry-makers. They succeeded, and in the following years

their small band grew in size and popularity. When Ardeer Recreation Club opened, dancers were fortunate to have Brown's Merry-makers as the resident band. Since that date the reputation of Brown's Merry-makers has grown and many dancers in the West of Scotland have had the pleasure of enjoying their music. Besides having played in almost every town and village in Ayrshire the band has had engagements in Glasgow, Renfrewshire and Dumfriesshire.

PAINTS DIVISION

A Rum Customer

When Mr. Trefor Jones of Paints Division Export Department left London at the beginning of February for a sales-promotion tour of the dollar markets of Cuba, El Salvador, Nicaragua, Costa Rica, Ecuador and Panama, *Paints Bulletin* quipped:

"When he took off from London Airport his aircraft was under observation by officers of the Security Branch. A rumour had spread that a tall man with one leg and a wooden crutch had tried to stow away with him. This is quite understandable, for Mr. Jones is bound for Long John Silver's old haunts in the Caribbean."

Three weeks later the editor of *Paints Bulletin* received this letter:

"Dear Sir, I am a law-abiding sailor who bears no malice, but that cove who told your readers I tried to stow away from London Airport with Mr. Jones deserves to end his days dancing a hornpipe in a rope's end at Execution Dock by London town. If Mr. Jones will lay his course past Luron and a point to windward, he will find me and my parrot Captain Flint living on the Isle of Belco.

"Let him bring me a lick of 'Dulux' for this old timber leg, and I give you my affy-davy I will buy enough paint to set you all up in carriages like true Gentlemen of Fortune. You see, mates, that sack of guineas I found in my hand when I escaped from the old *Hispaniola*—why, I invested them in a titanium mine the moment I heard that the East India Company was being taken over by I.C.I. That was in 1754, so I reckon I qualifies for membership of your Veterans Club. Yours truly, Long John Silver."

PLASTICS DIVISION

Conquest of Cataract: An Artificial Heart

Two new uses of 'Perspex' in surgery have been reported recently: in operations for cataract, and in heart and lung surgery.

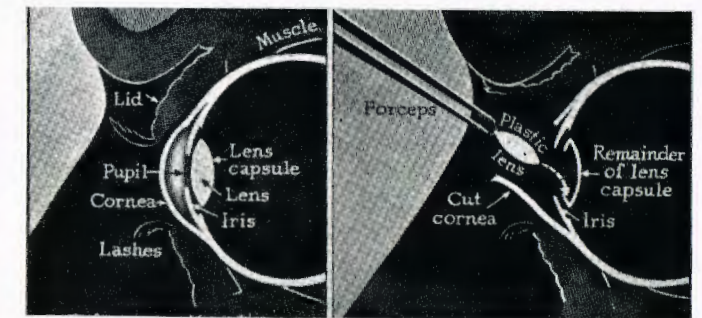
Cataract is a condition of the eye in which the lens becomes clouded so that vision is seriously impaired and is eventually lost.

For over 3000 years attempts have been made to treat this condition by surgery, and all the methods employed involve removal of the opaque lens, resorting to spectacles for correction of the inevitable defects of vision.

In a recent issue of the *Lancet* a well-known London ophthalmic surgeon describes a new method of treatment in which a tiny 'Perspex' lens is substituted for the natural one, being placed in the capsule from which the opaque lens is first removed. Unplasticised 'Perspex' was recommended by Plastics Division because it is light, easily worked and inert in contact with the tissues. 'Transpex' is preferred as being a material of constant optical properties.

The easy working qualities of 'Perspex' are quite valuable

in this instance. Not just any lens is inserted, but the lens is designed and made to give the best possible correction for the individual concerned for distant vision, leaving the correction for reading, playing cards and so on to be effected by normal spectacles.



(Courtesy of V. Puglisi and Time magazine. Copyright Time Inc., 1952)

Diagrams showing how new sight is given to an eye clouded by cataract. On the left is the eye before the operation. On the right the cornea has been cut and held back while the front of the lens capsule and the lens are removed. The 'Perspex' lens is then inserted behind the iris and held in place by the rear part of the lens capsule.

Some twenty-five cataract patients have so far been fitted with plastic lenses and in twenty-two the operation seems to be completely successful.

An experimental heart-lung machine constructed largely from 'Perspex' has been developed in Holland to enable the heart and lungs of a man undergoing a major operation to be put temporarily out of action, and its use may open up new fields in heart and lung surgery.

The new machine has been successfully used on animals, and its inventor is confident that it will work satisfactorily on human beings. He claims that his experiments have been made with such extreme caution and in such gradual stages that each successive obstacle has been scientifically overcome, and he is certain that he has solved the problem of making a mechanical heart take the place of the real thing.

WILTON WORKS

Mr. Luce meets a School Friend

Mr. Henry Luce, proprietor of the American magazines *Time*, *Life* and *Fortune*, made lightning tours of Billingham and Wilton Works in February during a visit to this country in which he hoped to see something of the more impressive achievements of British post-war industry. Several newspapers reported that Mr. Luce (whose publications are read by 8,000,000 Americans) seemed to have been impressed by the technological efficiency he found during his tour of the north.

At Wilton, where he was shown round by Dr. Armit, chairman of Wilton Council, Mr. Luce met an old friend in the power plant manager, Mr. D. B. Hogg. Mr. Hogg knew Mr. Luce in the days when they both attended the China Inland Mission boys' school at Chefoo, North China.

I.C.(P.)

Mr. W. H. Grice

On 1st March Mr. W. H. Grice succeeded Mr. J. A. Cochran as general sales manager of I.C.(P).

Although Bill Grice joined I.C.(P) as recently as September

1950, he brings to his new appointment the experience and judgment gained as a result of long service with I.C.I. (India) Ltd. He joined Brunner, Mond & Co. (India) Ltd. in 1927 and was made a director of I.C.I. (India) Ltd. in 1939 and a managing director in 1948, retiring from India in March 1950.

Mr. J. A. Cochrane's resignation ends a period of service with I.C.(P) which began in the very early days of the Division.

'TERYLENE' COUNCIL

Calico Printers Directors at Hillhouse

On 31st January the chairman and five of the directors of the Calico Printers Association visited the 'Terylene' plant at Hillhouse. They were accompanied by Mr. P. C. Allen, Dr. C. J. T. Cronshaw and Mr. W. F. Lutyens, I.C.I. Main Board directors; Mr. P. K. Standing, chairman of Dyestuffs Division; Mr. J. C. Swallow, chairman of Plastics Division; members of the 'Terylene' Council, and Mr. T. C. Fawcett, manager of the Northern Regional Sales Office.

The visitors were shown over the staple fibre and the continuous fibre spinning plants, and they also saw an exhibition of end-products made from 'Terylene.'

'Terylene' was discovered in the laboratories of the Calico Printers Association by Mr. J. R. Whinfield and Dr. J. Dickson in 1940, and later I.C.I. undertook responsibility for its development. The visitors were much impressed by the progress that has been made during the past few years and they expressed great confidence in the future of 'Terylene.'

A.C.C.I.

Challenge Cup for Khewra Gardens

The gardens at the Khewra Works of A.C.C.I., wrested by years of hard work from a salt desert, are now yielding fruit and vegetables of prize standard. In the Punjab Fruit and Vegetable Show this year Khewra was awarded the challenge cup for the best display from a small estate; first-class awards for English carrots and fenugreek; a prize for exhibiting the largest collection of vegetables in the show (53 in number); second-class awards for Malta oranges, chakotra oranges, country turnips, and peas; and third-class awards for white and yellow turnips and English peas.

All this was achieved in spite of a series of misfortunes. In April last year the citrus fruit trees were attacked by two virulent bacterial diseases, canker and shoot wither tip. No sooner had these been brought under control, by severe pruning and Plant Protection's 'Peronox' spray, than the gardens were invaded by swarms of locusts, which stripped the trees of much of their foliage, leaving the half-developed fruit exposed to the tropical sun. The outer skin of the fruit was badly scorched and the inside parched. Most of the vegetable and flower seed planted in 1951 failed to germinate, and many of the seedlings that did eventually struggle through the ground were burnt up by hot weather. Much sorting took place before worth-while specimens could be found for the show.

This is the third time that Khewra has won prizes at the show. The first time was in 1950, when their invitation to send exhibits arrived at 11 a.m. the day before the show was due to begin in Lahore, which is twelve hours by rail from Khewra. The garden overseer was sent off on the 4.15 p.m. train with the best specimens available of all the fruit and vegetables in the gardens, with instructions to make the most of them on the show bench. He brought back the news of the following



Khewra's prizewinning fruit and vegetables on display before being packed off to the Punjab show

awards: First class, peas; second class, carrots, tomatoes, Malta oranges, sweet limes and a collection of vegetables.

Twelve months later saw the garden overseer on the train to Lahore again, this time loaded with specimens which had been specially packed to withstand the long, dry and dusty journey without damage. The 1951 show was a great success for Khewra, and no fewer than nine first-class awards were taken.

Correction

By an unfortunate error in the last issue of the *Magazine* reference was made to St. Andrews University, Edinburgh. St. Andrews has, of course, no connection with Edinburgh, as one correspondent has pointed out in the following terms.

"As an old St. Andrean I feel I must protest against this capture of St. Andrews University by Edinburgh. As you are no doubt aware, St. Andrews University is the oldest university in Scotland, founded in 1411, and although no doubt Edinburgh would be only too glad to invade St. Andrews and capture the University, this, thank goodness, has not yet happened."

* * *

OUR NEXT ISSUE

The May number has a holiday flavour. J. P. Pears of Intelligence Department writes on a trip to Holland, and we have illustrated his article with some fine photographs of picturesque Dutch village life where colourful native costume is still worn. Mr. Aris of Billingham Division tells of a different kind of holiday—one in which he visited the famous Bass Rock off the Firth of Forth, where thousands of sea birds—puffins, gannets and kittiwakes—make their home. Also from Billingham Division comes another article of unusual interest. Mr. W. P. B. Semmens writes on the ancient art of bell-ringing. How many people know that out of the 5500 peals of bells in the world all but 54 are in the British Isles?

Our main article is about the Company and tells the story in pictures of the ship repair service run by Salt Division at Winsford. Here I.C.I. have their own dry dock and their own craftsmen—shipwrights, blacksmiths, sawyers, sailmakers, riggers—to keep the little ships of the river Weaver running.

Fable of the PURPLE MIST

By R. P. Maxwell (Nobel House)

Illustrated by Hewison

This is a fast-moving, fantastic yarn written without moral, reason, or plot, just a hodge-podge of humorous nonsense suitable perhaps for a light-headed mood, say on a moonlight night when one is feeling the strain of loneliness.

THE trivial round, the common task, will furnish all we need to ask. This may be so in normal conditions and circumstances, I humbly agree, but when without even a word of warning the vastly mysterious, supernatural forces get operating, then believe me, all normal conditions simply fly to pieces, leaving just one dominating dictator who has from the beginning of time immemorial swayed supreme power.

What is this great mysterious power?

Why, Fear—fear of the unknown! So great and powerful is this diabolical weapon that one man, if he can master its limitless forces, can undoubtedly rule the universe, and so says I.

Well, my dear reader, if you have followed me so far and are inclined to forbear with me in dilly-dallying until the end of this nonsensical yarn, which is the result of some fantastic thinking which I habitually indulge in, owing to years of night starvation; if you are, then plunge mentally into the vortex of a nightmare.

Now it all began its beguine, on a cold and frosty morning,



Bonzo and the magician Merlin walked straight through the side of a number thirty-three bus and entered a fast-moving taxi

the thirteenth day of November, nineteen hundred and forty-eight, A.D.—remember?—that there did truly step out very lively from the fourth dimension the one and only celebrated magician, Merlin, followed closely by none other than the patron saint of all mongrel dogs, St. Bonzo, the most ugly of all mongrel dogs, that did ever live, and no kidding!

Now these two famously historical visitors from the dead and gone long ago were first spotted by Red Poloni, London's most unfashionable spiv, who was nipping along the Seven Sisters Road, believe it or not, about seven forty-five on that cold and frosty morning. Red Poloni swears by all his chippilaters that the great Bonzo

and the magician Merlin walked straight bang through the side of a number thirty-three bus and very sedately entered a fast-moving taxi that was westward bound.

Now if it hadn't been for poor misguided Red Poloni's misfortune to slip up on a carelessly discarded banana skin and so dislocating his lily-white neck just outside the Old Mother Havaglass only a second or two later of witnessing what the

1950, he brings to his new appointment the experience and judgment gained as a result of long service with I.C.I. (India) Ltd. He joined Brunner, Mond & Co. (India) Ltd. in 1927 and was made a director of I.C.I. (India) Ltd. in 1939 and a managing director in 1948, retiring from India in March 1950.

Mr. J. A. Cochrane's resignation ends a period of service with I.C.(P) which began in the very early days of the Division.

'TERYLENE' COUNCIL

Calico Printers Directors at Hillhouse

On 31st January the chairman and five of the directors of the Calico Printers Association visited the 'Terylene' plant at Hillhouse. They were accompanied by Mr. P. C. Allen, Dr. C. J. T. Cronshaw and Mr. W. F. Lutyens, I.C.I. Main Board directors; Mr. P. K. Standing, chairman of Dyestuffs Division; Mr. J. C. Swallow, chairman of Plastics Division; members of the 'Terylene' Council, and Mr. T. C. Fawcett, manager of the Northern Regional Sales Office.

The visitors were shown over the staple fibre and the continuous fibre spinning plants, and they also saw an exhibition of end-products made from 'Terylene.'

'Terylene' was discovered in the laboratories of the Calico Printers Association by Mr. J. R. Whinfield and Dr. J. Dickson in 1940, and later I.C.I. undertook responsibility for its development. The visitors were much impressed by the progress that has been made during the past few years and they expressed great confidence in the future of 'Terylene.'

A.C.C.I.

Challenge Cup for Khewra Gardens

The gardens at the Khewra Works of A.C.C.I., wrested by years of hard work from a salt desert, are now yielding fruit and vegetables of prize standard. In the Punjab Fruit and Vegetable Show this year Khewra was awarded the challenge cup for the best display from a small estate; first-class awards for English carrots and fenugreek; a prize for exhibiting the largest collection of vegetables in the show (53 in number); second-class awards for Malta oranges, chakotra oranges, country turnips, and peas; and third-class awards for white and yellow turnips and English peas.

All this was achieved in spite of a series of misfortunes. In April last year the citrus fruit trees were attacked by two virulent bacterial diseases, canker and shoot wither tip. No sooner had these been brought under control, by severe pruning and Plant Protection's 'Peronox' spray, than the gardens were invaded by swarms of locusts, which stripped the trees of much of their foliage, leaving the half-developed fruit exposed to the tropical sun. The outer skin of the fruit was badly scorched and the inside parched. Most of the vegetable and flower seed planted in 1951 failed to germinate, and many of the seedlings that did eventually struggle through the ground were burnt up by hot weather. Much sorting took place before worth-while specimens could be found for the show.

This is the third time that Khewra has won prizes at the show. The first time was in 1950, when their invitation to send exhibits arrived at 11 a.m. the day before the show was due to begin in Lahore, which is twelve hours by rail from Khewra. The garden overseer was sent off on the 4.15 p.m. train with the best specimens available of all the fruit and vegetables in the gardens, with instructions to make the most of them on the show bench. He brought back the news of the following



Khewra's prizewinning fruit and vegetables on display before being packed off to the Punjab show

awards: First class, peas; second class, carrots, tomatoes, Malta oranges, sweet limes and a collection of vegetables.

Twelve months later saw the garden overseer on the train to Lahore again, this time loaded with specimens which had been specially packed to withstand the long, dry and dusty journey without damage. The 1951 show was a great success for Khewra, and no fewer than nine first-class awards were taken.

Correction

By an unfortunate error in the last issue of the *Magazine* reference was made to St. Andrews University, Edinburgh. St. Andrews has, of course, no connection with Edinburgh, as one correspondent has pointed out in the following terms.

"As an old St. Andrean I feel I must protest against this capture of St. Andrews University by Edinburgh. As you are no doubt aware, St. Andrews University is the oldest university in Scotland, founded in 1411, and although no doubt Edinburgh would be only too glad to invade St. Andrews and capture the University, this, thank goodness, has not yet happened."

* * *

OUR NEXT ISSUE

The May number has a holiday flavour. J. P. Pears of Intelligence Department writes on a trip to Holland, and we have illustrated his article with some fine photographs of picturesque Dutch village life where colourful native costume is still worn. Mr. Aris of Billingham Division tells of a different kind of holiday—one in which he visited the famous Bass Rock off the Firth of Forth, where thousands of sea birds—puffins, gannets and kittiwakes—make their home. Also from Billingham Division comes another article of unusual interest. Mr. W. P. B. Semmens writes on the ancient art of bell-ringing. How many people know that out of the 5500 peals of bells in the world all but 54 are in the British Isles?

Our main article is about the Company and tells the story in pictures of the ship repair service run by Salt Division at Winsford. Here I.C.I. have their own dry dock and their own craftsmen—shipwrights, blacksmiths, sawyers, sailmakers, riggers—to keep the little ships of the river Weaver running.

Fable of the PURPLE MIST

By R. P. Maxwell (Nobel House)

Illustrated by Hewison

This is a fast-moving, fantastic yarn written without moral, reason, or plot, just a hodge-podge of humorous nonsense suitable perhaps for a light-headed mood, say on a moonlight night when one is feeling the strain of loneliness.

THE trivial round, the common task, will furnish all we need to ask. This may be so in normal conditions and circumstances, I humbly agree, but when without even a word of warning the vastly mysterious, supernatural forces get operating, then believe me, all normal conditions simply fly to pieces, leaving just one dominating dictator who has from the beginning of time immemorial swayed supreme power.

What is this great mysterious power?

Why, Fear—fear of the unknown! So great and powerful is this diabolical weapon that one man, if he can master its limitless forces, can undoubtedly rule the universe, and so says I.

Well, my dear reader, if you have followed me so far and are inclined to forbear with me in dilly-dallying until the end of this nonsensical yarn, which is the result of some fantastic thinking which I habitually indulge in, owing to years of night starvation; if you are, then plunge mentally into the vortex of a nightmare.

Now it all began its beguine, on a cold and frosty morning,



Bonzo and the magician Merlin walked straight through the side of a number thirty-three bus and entered a fast-moving taxi

and the magician Merlin walked straight bang through the side of a number thirty-three bus and very sedately entered a fast-moving taxi that was westward bound.

Now if it hadn't been for poor misguided Red Poloni's misfortune to slip up on a carelessly discarded banana skin and so dislocating his lily-white neck just outside the Old Mother Havaglass only a second or two later of witnessing what the

the thirteenth day of November, nineteen hundred and forty-eight, A.D.—remember?—that there did truly step out very lively from the fourth dimension the one and only celebrated magician, Merlin, followed closely by none other than the patron saint of all mongrel dogs, St. Bonzo, the most ugly of all mongrel dogs, that did ever live, and no kidding!

Now these two famously historical visitors from the dead and gone long ago were first spotted by Red Poloni, London's most unfashionable spiv, who was nipping along the Seven Sisters Road, believe it or not, about seven forty-five on that cold and frosty morning. Red Poloni swears by all his chippilaters that the great Bonzo

poor punk believed to be an hallucination, dear old battered Londoni Town would most assuredly have been well forewarned if not exactly forearmed. As it was, Red remained ungratefully prone and speechless for some twenty-four hours, during which time a multitude of sins were wickedly committed in the name of Prince Lucifer, and which incidentally ain't nobody's business, see?

It was later, as Big Ben struck the moonlight hour of midnight, that the extremely agitated B.B.C. interrupted the recorded song of moonlight and shadows, sung by Dorothy Lamour, to issue an S.O.S. message to the whole of Great Britannia, stating precisely, as per usual, in that canned Oxford, Cambridge and H.M. Borstal tone of voice, that a deep-eyed, purple mist was swiftly descending down upon the benighted metropolis, and without any suave political bolony, that all professing Christians and law-abiding citizens should earnestly, with great effort to keep cool, calm and collected, go very quietly and as quickly as they possibly could to their caves and dug-outs or holes in the wall to the march of "Sing as we Go," and then to await the next bulletin on the national dissituation, which the great I-ams, in despotic power, would shortly have under discontrol and that Tommy Handley, that man again, would now take over the air, which he did, and utterly surpassed himself beyond all compare, by getting the Colonel jolly well drunk, so there!

Crash, bang, wallop, tinkled old Big Ben, as it liverishly tolled out the hour of 9 a.m. on that second day of awful nightmare, known as the purple mist, the tune for the hour, which was played by Jackie Payne and his bandoliers, was "It always rains on Sundays," and in the Café Sentimental, which was situated in a cul-de-sac off Angel Pavement, in the borough of sweet fairy Anne's, Red Poloni the super-spiv was galloping

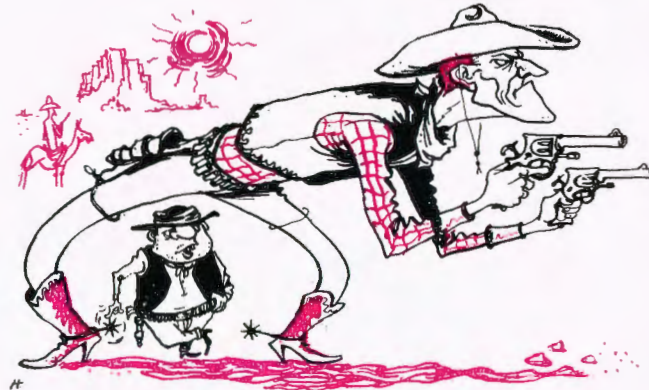


Down Pudding Lane Ernie Beeline rode a humpty-backed cart-horse as he sang the Desert Song

down his usual breakfast of Scots porridge and bacon and eggs—"yes, you heard!" The wise boy was also studying the *Spivs' Gazette*. Red, like the many millions of Great Britanias, overcrowded, pawns of harsh fate, felt that morning an atmosphere of warm comfort, and believe me, that's just about all—"does that rhyme, or does that rhyme?"

Down Pudding Lane Ernie Beeline was doing his jolly old stuff by riding up and down and all around on a large humpty-

backed carthorse by the name of Butch, and singing in rich barrow-boy tone of voice the Desert Song. While just across the way Simon Templar, the Saint, having at last met defeat and at the end of his tether, was endeavouring in vain to hang himself from a long-suffering lamp post, while up in the attic little Audrey from U.S.A. laughed and laughed, because she knew that Patricia Holme had eloped with a guy by the name of Mr. Topper into the fourth dimension, so what price now for your house of dreams come true?



South of the Border two lone Texas Rangers were striving, seeking, but not finding their man!

So over now to Ealing Broadway, to discover twenty thousand suburbanites having the time of their lives, nothing less than one glorious big-time smash-up, led by none other than the reincarnated Oliver Cromwell, if you please, the pure snob if there ever was one. Let's pass on and take a trip to Salisbury plain, and take a peep at David as he marches forward, with his sling and five small pebbles, to meet the Giant Goliath with all his armour girded on, so sez Murdoch c/o Much-Binding-in-the-Marsh; but watch Costa, says Vic Oliver, and as Mr. Belcher says, if you nurse your troubles they will grow big like babies.

Anyway, get a load of this, you dumbbells, only the fact of King Solomon, hawking bootlaces down the Edgware Road, garmented in all his glory, oh vanity of vanities, all is vanity and vexation of spirit, so sayeth the preacher.

Having suffered this impertinent interruption, let's meander our way back to loveland, for there should certainly be a society for the prevention of cruelty of saveloys, so the moon having left Burma had now found its way over to Eaton Square, Westminster. So in the Garden of Eden love told once again its old, old story, while Slim Havaguess went on dusting and dreaming, while south of the border, two lone Texas Rangers were striving, seeking, but not finding their man.

And so say all of us, and the rusty roosters, dontcha know and as King Richard the First truthfully said to aide-de-camp way back in the Holy Land, "You're telling me!"

While elsewhere Ernie Beeline was seen to the disgust of Pip, Squeak and Wilfred sucking a Lancashire lollipop, and away in the Albanian mountains the Giant Garth was taming Thalassa the shrew to the accompaniment of the Rhapsody

in Blue, so let all men, without pity, be forfeit all offal, until such time as Mr. Bacon Streaky sings "Ain't it grand to be blooming well dead," so that when the poppies bloom again we may all have crossed the great divide, so at last ending for us the great game, which will have had its day, and so say all of us, and no kidding, bringing us to the trivial round, the common task, will furnish all we need to ask. So what chance has Oliver Cromwell of winning the Grand National Stakes in nineteen fifty-nine? Perhaps we had better leave that answer to the lovely girls in Galway Bay.

After all, the novel (once in every lifetime) won the noble price of five hundred pounds for the year nineteen hundred and forty-five, wasn't it? Anyway, it means streams of wallop for someone.

Now on our way out, let's take our hats off to good and dear old Nellie Wallace, the regular storm-trooper of the good old days gone by. She was a good girl, so ses Antony, Cleopatra's glass of beer, as we say in these 'ere modern times, sponsored by Arthur J. Rank, who saved our crust of bread in nineteen hundred and thirty-eight so that we would still have it in nineteen hundred and forty-one, in our hour of blackest despair. It's about time Achilles, that god of love, did something about all this cruelty to jilted lovers, and so say all of us. Punch-drunk Harris says what we want is a few more game boys like Freddie Mills. As it is, the nation's just like one big prison, overcrowded with life sentences.

Aah, mon cher! The ravaging fire within me has burnt to white soft silk ashes, so exclaims Johnny Frenchman.

And so onward and onward through the long, long nights and days of doubt and sorrow, we fifty-odd million Muffins march steadily on towards the promised pie in the sky when we die! The good old red, white and blue, what does it mean to you? Rule, Britannia! We still hope rules the waves, but this we know that Englishmen are slaves. Deny me humbugs if you dare, for I do truthfully declare, by all that's fair, that England, land of the brave, has its freedom lost beyond all compare.

Rudyard Kipling, you were right, more ashamed of England you never, never were.

So which brings us where?

And so as the long, sinewy, crinkled hand of G. B. Shaw stretches out and scrawls the writing on the wall, the British railways go out on strike.

Well, as all well-behaved Englishmen should know, there's only one side to every story, and that's the great I-am's side.

I've gone and done it now all right; this is where Charlie Chan, Police Inspector, steps in and gently puts me under arrest for trying to incite a public mutiny aboard Her Majesty's Island Britannia. But slippery as an eel I wriggle my way out

and scamper off into the wide open spaces, to continue telling the old, old story of how in my childhood days I used to line up at 6.30 a.m. with a pillow slip for sixpennyworth of stale bread and two pennyworth of cakes (ditto) what the lords and ladies couldn't eat, not to mention the fourpenny hambones from Sainsbury's, and other such items, such as giblets and pieces trimmed off joints of stale meat, bones, broken biscuits and turbot heads, saveloys, faggots and pease pudding; and on such body-building fare as this the backbone of old England has withstood all comers. He who would England win must believe me, with Ireland first begin, so said Napoleon.

Vanity, all is vanity, sayeth the preacher.

I should worry, says Bud Flanagan, as he tap-dances his way to the stars; you're only a lot of psychosomats, anyway. So Egypt doesn't want to talk to Britannia, what? Bluebells we'll gather until the fields are white with daisies.

While old man Ruggles, still wearing his bowler hat, has another ruck about his old Dutch, paying one and sixpence for a worm-eaten cauliflower. So hurry up, you down-and-outs, and realise that there's no short cut to cheaper living, as there's one menu for the British and another for their guests, so walk beside the river all the way. For it's not one thing, it's everything; so let's all dream of the Shambrock and retain some memories of Killarney in the spring, when raindrops softly fall. But with no spice of life on the ration let's all go to the dogs. Mush, mush, beware, calamity walks beside you, so all you fish who wear rose-coloured glasses and dwell in a fool's paradise, remember your dear old mothers in whose fond memory you never wane. Remember she's an angel, through all your troubles she will be there, wherever you are in this wide, wide world, in spirit to give heart, you unworthy sons of guns. Yes, you blokes, who have a lot of bad in the best of you and a lot of good in the worst of you, please remember your dear old mothers, for she's the girl who will always be waiting with welcome when the rest of the world gives you the Frankie and Johnny.

Believe me, all you fellow failures, castles in Spain can be found and houses of dreams do come true, so in your ups and down nurture a song in your heart, keep cheerful and your neck clean, and you'll find you will never sabotage your own personal struggle for existence.

So get down to it, my lucky chips off the old

block, take advice from me, and become rich in the good things of life. Don't be shy, just nip and have a go. Remember you have a reputation to uphold, so grab your peashooters like the boys of the old brigade, dontcha know.

Well, well, well, every song has an end and every story a conclusion; but me, I wishes you all bung-ho, and jolly good luck this side of Jordan.



Charlie Chan, Police Inspector, gently puts me under arrest for trying to incite a public mutiny aboard Her Majesty's Island Britannia



"The Cheddar Gorge"

Photo by N. S. Lambert (Metals Division)

The Editor's Postbag

Readers are asked to help make a success of this Correspondence Supplement and send letters for publication to the Editor before the 15th of the month. Letters should be of general interest, non-political, and as brief as possible. They should not deal with subjects for which there is special machinery for dealing elsewhere, such as trade union matters or matters which should properly be dealt with in Works Council.

The Pros and Cons of Profit-sharing

Sir,

I have read with interest the article by Mr. S. P. Chambers under the heading "The Pros and Cons of Profit-sharing" in the February issue of the *Magazine*, and, as a member of the Production Committee which originally put the idea forward in the shape of a resolution, I should like to be allowed to pass a few remarks.

Mr. Chambers starts off by describing profit-sharing as a grand idea, and then, for some reason, goes on to explain why nearly every scheme has failed and most of them have been discontinued.

Can Mr. Chambers tell me of any instance where a profit-sharing scheme has been discontinued at the request of the payroll employees? Then again, Mr. Chambers lays great stress upon the question of where the money is coming from to pay a profit bonus. Well, the answer to that is obvious. Out of profits. I am no financier, but it seems to me a very simple matter to allocate the amount of 1, 1½ or 2 million pounds for a bonus, and it would not require a huge staff to divide the amount by the number of employees.

We do not want, and cannot cut down, the amounts required for the purchase of raw materials, etc., wages, salaries and the Pension Fund, but who has asked that these should be cut? What about the other items in the list? Suppose, instead of 226 million being received during 1950, the income had been only 220 million, something would have had to feel the weight of the axe.

Mr. Chambers has been very generous in his estimated amount required for any profit-sharing

scheme, and I can assure him that £10 million far exceeds my wildest dreams of my share in any profits, even when it is divided by 100,000. That would mean £100 per share.

Now, reduce the amount to £1 million and you get £10 per share, which to a £5 10s. a week labourer would be a nice little present at Christmas or holiday time. No doubt Mr. Chambers' £10 would amount to very little after the payment of income tax, etc.; but I would remind him that the lower-paid worker with a family of two would not have to pay tax on the sum of £10.

Again, where can the money be best obtained?

If, in the balance sheet of 1950, £1 million had been allocated to the employees, the other items in Mr. Chambers' list would not have suffered an irreparable loss if the amount had been equally borne by them. I refer, of course to the £13½ million for reserves, £9 million for plant depreciation, etc., £4½ million for expansion; and surely a goodly sum of the £12 million paid in taxation would have been saved if £1 million had been shared out between employees?

Finally, I challenge Mr. Chambers' statement when he says that we could not expect any increase in production if such a scheme was in operation. Surely the knowledge that the greater the profits, the greater the share of those profits to every employee, would tend to give an added incentive to increase production.

H. LITTLEMORE

F.P.T. Shop, Alkali Division
Winnington

The Growing of Roses

Sir,

I have read with particular interest the article by Mr. N. P. Harvey on roses. Noting that he is an expert of renown on the staff of Plant Protection Ltd. I expected to find rather strong condemnation of the instructions given in rose catalogues issued by certain nurserymen, who shall remain nameless. Such was not the case, the only deprecatory statement being "Beware of manure getting to the roots of the tree, for it will burn them."

Think of a tender plant suffering a major operation, being labelled, ruthlessly uprooted from its home, thrown into a heap, gathered into the despatch store, sorted, packed into straw, tossed to and fro on the railways for days until the frost comes, and then delivered to an overwrought, harassed enthusiast who must then helplessly await the coming of better weather before planting out. The ground has been prepared, liberally manured, the rose given a good long drink, and the moment for planting arrives. One can visualise the amateur "amateur" looking with a reproving eye on the manure and saying "Now don't ee go too near them roots or, doggone it, they be shrivelled up and burned!"

When a tree has been uprooted, transported and translated it is sick and requires gentleness and firmness in planting, and then—rest. The latter is the best recuperative treatment. So let it sleep; do not revitalise it by giving it manure at all until it begins to open its eyes in the spring. Then you can feed it, and keep it well fed at monthly

intervals until the flowering season ends.

I do thank Mr. Harvey for his splendid article and, like Oliver Twist, would ask for more. What about a monthly digest of jobs to do in the garden, or articles on carnations, chrysanthemums and gladioli?

W. BAXENDALE

Roburite Factory

Nobel Division

Memorial Service

Sir,

Will you please allow me to use your correspondence sheet as a means of expressing appreciation of the simple yet dignified memorial service that our directors at Metals Division so considerably allowed to be arranged for us in the forecourt at Witton on that sad Friday, 15th February.

As Canon Warman, the Vicar of Aston, who conducted our service, repeated the words of the royal message of Christmas 1939 one seemed actually to hear again the late King's voice giving its message of hope and encouragement: "I said to the man who stood at the gate of the year, 'Give me a light that I may tread safely into the unknown.' And he replied, 'Go out into the darkness, and put your hand into the hand of God. That shall be to you better than light and safer than a known way.'"

K. G. TYE

Kynoch Works

Metals Division

Do we lag behind in Sport?

Sir,

With reference to Mr. Page's letter, I recall that a representative hockey team from I.C.I. played against the German team I.G. Farbenindustrie in 1933 and 1937 in Germany, and in 1935 in this country. Furthermore, in the early years of I.C.I.'s formation inter-works competitions took place in nearly all branches of sport, organised by an official appointed by the Company for this purpose. The scheme was abandoned, I believe, during the depression years of the early '30s.

E. H. LAPHAM

Kynoch Works

Metals Division

Sir,

I feel I cannot let Mr. Page's letter "Do we lag behind in Sport?" pass without comment. If I may borrow a phrase from Mr. M. F. Smith of Metals Division, the writer should be a little more particular about his facts before committing himself to print. The banks and oil companies, far from being small, have the advantage of having the majority of their staff centrally located in the square mile of London, which makes selection of a representative XI or XV much easier.

Furthermore, how does Mr. Page propose to select a so-called representative team in any sport, when the Company's 104,000 employees are scattered between Ardeer and Slough?

Finally, I agree wholeheartedly with Mr. Page's suggestion of an inter-Divisional shield, but would add a suggestion of my own: Plastics, Paints and Head Office versus I.C.I. North and Midlands.

KENNETH JONES

Captain, London Offices Cricket Club

Intelligence Department

Nobel House, London

In Praise of Bulk

Sir,

Mr. Malcolm F. Smith of the Metals Division at Witton reminds me of Hilaire Belloc's "Lines to a Don":

"Remote and ineffectual Don
That dare attack my Chesterton."

It is notorious that a jester lays himself open to attack, and doubtless many jesters of the Middle Ages suffered for their humour; but if the matter is to be treated seriously then I can only repeat my statement and produce more than "one shred of evidence."

Chesterton was born into a Church of England family and christened in the Anglican Church of St. George. His religious background was negligible in the early days of his life. At one time he dabbled in spiritualism, and later told Father O'Connor that he gave up using the planchette on account of headaches which ensued.

During the Boer War period of his life he played with socialism and

wondered if a socialistic Christianity would serve his purpose. Later, a short but violent belief in agnosticism prevailed, and to quote his own words, he even found it difficult to believe in an agnostic. It is true, and happily true, that he ended his mental distress by the contentment brought about by full conversion to Catholicism, but I would venture to suggest that the above might be described as a mental distress in religious beliefs.

In regard to his instability, I had hoped that it could be recognised as a quip directed at his bulk. Surely, it is notorious that in later life he found it difficult to get about with any sense of agility. It so happens that he was a friend of my aunt's and called upon her on one occasion. The only chair available was manifestly unsuitable; nevertheless he endeavoured to lower himself into it with the help of a nearby table; not only "G.K." but the table proved to be unstable. He descended into the chair with such force that it collapsed. I have the remains of the chair as an additional "shred of evidence."

I think it was Pope who wrote "A wit's a feather"; unhappily I seem to have been forced into converting it into a sledge-hammer.

"THE THIN MAN"

Lostock Works, Alkali Division

Northwich

I Dun it!

Sir,

"Serve 'em right!" No, the attitude of "Ivy Clematis" to climbing accidents is not abnormal for a plains-bound pedestrian; as such he cannot expect to know the delights experienced by the mountaineer and understand his philosophy.

What are these delights? They are spiritual or mental rather than corporeal. William Blake refers to them when he writes:

"Great things are done when men and mountains meet.

This is not done by jostling in the street."

"LOFTY"

Alkali Division

Winnington